

# THESAURUS CAPENSIS:

OR,

## ILLUSTRATIONS OF THE SOUTH AFRICAN FLORA,

BEING

FIGURES AND BRIEF DESCRIPTIONS OF SOUTH AFRICAN PLANTS,

SELECTED FROM THE

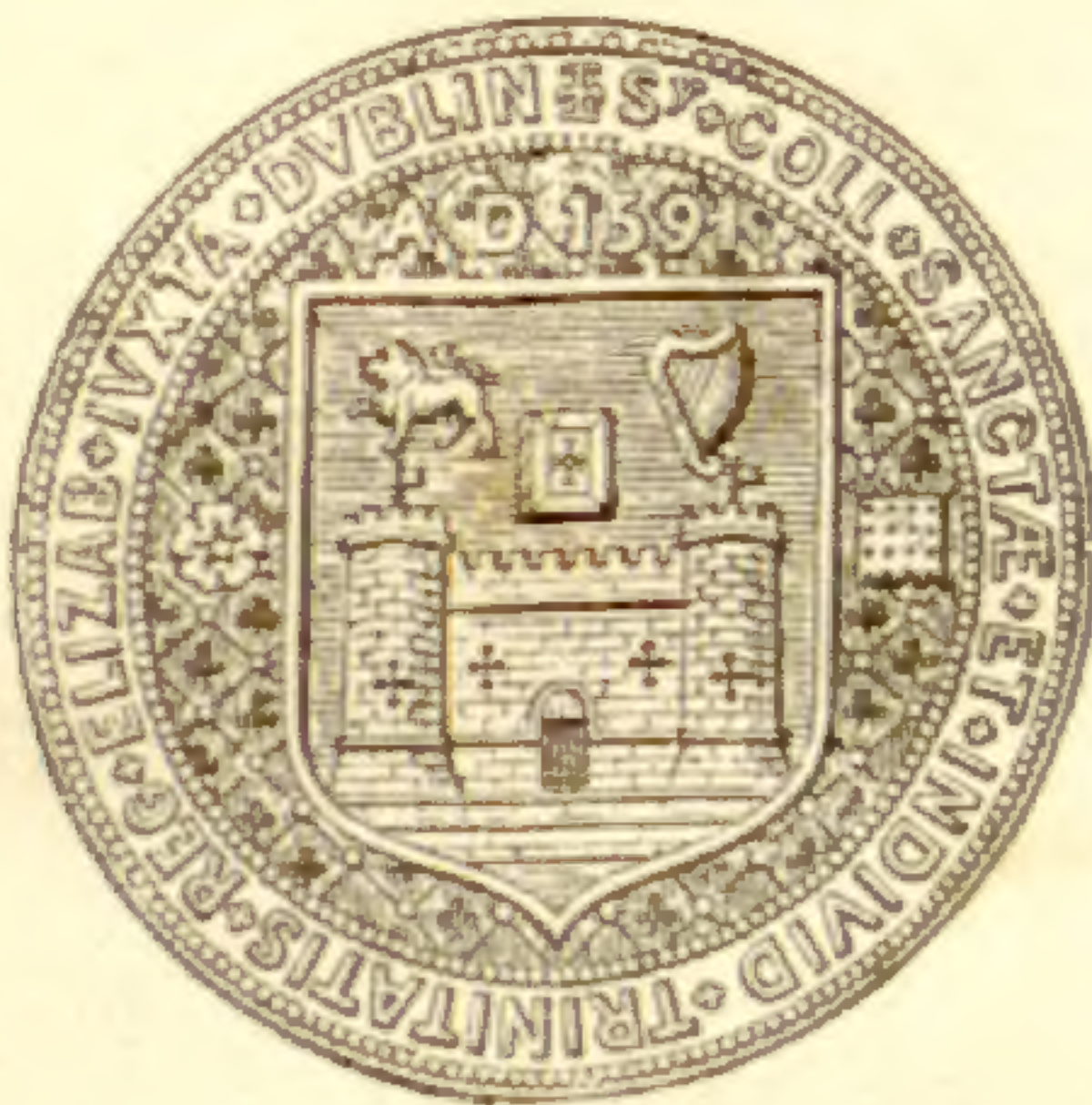
Dublin University Herbarium.

BY

WILLIAM H. HARVEY, M. D., F. R. S., &c.,

PROFESSOR OF BOTANY IN THE UNIVERSITY OF DUBLIN, AND KEEPER OF THE  
HERBARIUM.

Chi non può quel che vuol, quel que può voglia.—*Old Proverb.*



VOL. I.

DUBLIN:

HODGES, SMITH, AND CO., GRAFTON-STREET,

BOOKSELLERS TO THE UNIVERSITY.

LONDON: JOHN VAN VOORST, 1, PATERNOSTER-ROW.

CAPETOWN: A. S. ROBERTSON.

1859.



DUBLIN:  
Printed at the University Press,  
BY M. H. GILL.

59-45

vol 1



TO  
THE HONORABLE RAWSON W. RAWSON, ESQ., C.B., &c.,  
SECRETARY TO GOVERNMENT, CAPE OF GOOD HOPE,  
AND AUTHOR (JOINTLY WITH DR. PAPPE) OF THE "SYNOPSIS FILICUM AFRICÆ AUSTRALIS,"  
AS A MARK OF PERSONAL RESPECT,  
AND  
IN GRATEFUL ACKNOWLEDGMENT OF SERVICES RENDERED TO  
SOUTH AFRICAN BOTANY,

This First Volume  
OF  
THE "THESAURUS CAPENSIS"  
IS INSCRIBED,

BY

THE AUTHOR.



## P R E F A C E .

---

THIS work is designed to be a running Supplement and Illustration of the "FLORA CAPENSIS," or General Description of the Plants of South Africa, now in preparation by Professor Harvey and Dr. Sonder.

It will consist of figures and descriptions of new plants which may be received during the progress of the larger descriptive work, and also of any South African plant which the Author may think worthy of a figure. The great extent of the Cape Flora precludes the possibility of figuring all its species; and even a complete illustration of the *Genera* would require 1500 to 2000 plates. Hence the necessity of limiting ourselves to plates of *new, unfigured, or little known* plants, or to such as, by their structure, use, or beauty, specially recommend themselves to notice.

Every volume of the "THESAURUS" will contain 100 plates and descriptions, and be complete in itself. It will be published in quarterly parts, each of 25 plates; and though the Author does not bind himself to publish more than one volume; yet, if supported, this *precursor* may be followed by five or six, or even more, similar volumes. The impression is limited to 250 copies, of which 150 are reserved for colonial sale. The expenses of publication are divided between the Author, who contributes the plates, and the University, which gives the letter-press; and the profits of sale, if any, will be applied to enriching the Herbarium, which is kept up by the University for the free use of the botanical public.

The figures, with rare exceptions, will be drawn by the Author from specimens preserved in the DUBLIN UNIVERSITY HERBARIUM, which will be throughout quoted as "Herb. T. C. D."



When the specimen figured is taken from any other source, it will be duly noted:—and as one of the Author's chief objects in undertaking the work is to enrich the botanical "Treasury," of which he has the charge, he here solicits from all residents in South Africa, and from all who have friends resident there, *dried specimens* in aid of his undertaking. Such collections will be gratefully acknowledged and recorded, and if the specimens are sent duly numbered, names will be returned to the contributor, who, by keeping a duplicate set, with corresponding numbers, may easily acquire a botanical knowledge of the plants he has collected; and thus increase his interest in the pursuit, and possibly add to his fame.

The following short directions explain the process of drying specimens for the Herbarium:—

#### SHORT DIRECTIONS FOR DRYING BOTANICAL SPECIMENS.

1. A botanical *specimen* should be, as much as possible, an epitome of the species which it represents. To be perfect, it should have *root, stem, leaves, flowers* (both *open* and in *bud*), and *fruit* (both *young* and *mature*). It is not always, however, possible to gather such complete specimens; but the collector should aim at *completeness*.

*Broken fragments*, such as leaves without flowers, or flowers without leaves, are of comparatively little use, their identification, if accomplished, generally giving more trouble than the result obtained is worth; and this trouble may be avoided by attention to the above and the three following rules.

2. All *small plants*, not exceeding 15 inches in height, should be plucked up by the roots, the whole plant forming a single specimen; or, if a many-stemmed plant, or one much branched near the base, and which if dried whole would make too *dense* a mass of branches or stems, it may be divided, *at the origin of the branches*, into several specimens.

3. If the plant to be dried be of greater length than 15 inches, and if it be thought desirable—either from the lower leaves differing from the upper, or from the branches being long and naked—to preserve the stem *unbroken*, the specimen may be folded in lengths of 15 inches. This is often done with *Grasses, Sedges, and Ferns*; and should be done in the cases of all long-stemmed, lax-leaved herbaceous, and with tall bulbous plants, in order to preserve an indication of their *habit*.

4. Herbaceous plants of large size, and specimens of the branches of shrubs and trees, must be broken into pieces, say 10–15 inches long, the length varying with the nature or ramifications of the plant. The object is to preserve as much of the peculiar aspect of the plant as is possible.

5. At *least* a dozen specimens of each plant should (when practicable) be gathered, for the purpose of exchanging with other botanists. A collector can



scarcely have too many duplicates, especially when his explorations are made in a little-frequented district. Many collect much more extensively.

6. The collector should be provided with :—

1. A quantity (at his discretion) of any stout, coarse, unsized paper, of uniform dimensions, say 12 inches by 18. Old newspapers answer the purpose; and common packing paper, whity-brown, or brown, is most excellent. *Blotting paper* is much too tender and expensive.

2. A smaller quantity of very thin, unglazed paper, or chemist's *filtering* paper (for drying plants with delicate corollas, see No. 15).

3. Several flat, perforated boards, the size of the paper. Open wooden frames, with cross-bars, or frames of strong wire-work lattice, are better than boards, as they permit a freer evaporation.

4. A light *portfolio* of pasteboard, covered with calico, fitted up with 12–20 leaves of strong brown paper, furnished with a strap and buckle for closing, and another for slinging over the shoulders, is better and more portable than the old-fashioned collecting-box. The specimens, as gathered, are placed between the leaves, and may be crowded together, if not left too long without sorting.

5. A bag or haversack is also useful for collecting rigid-leaved or shrubby plants that might injure those in the portfolio.

7. If the plants be gathered in dry weather, no time should be unnecessarily lost in placing them under pressure; but if they must be kept over, they may be preserved, for a day or two, if sprinkled with water, and enclosed in a tin box kept in a cool situation.

8. On returning from the field, sort the specimens into those that are *fleshy* or *juicy*, and those that are of a drier nature, and dry them in separate bundles. If mixed together, the former are very apt to injure the latter, and to retard their drying.

9. The drying process is as follows :—Take one of the flat boards or frames, and lay three or four sheets of the drying paper upon it. On these lay specimens, placing them as closely as they will lie without overlapping each other. Cover the specimens with a similar layer of paper; and on this lay other specimens; repeating alternately a layer of paper and of specimens, till you have either placed in paper all the specimens collected, or made a sufficiently thick pile. Cover the pile with one of the flat boards, and place upon it a heavy weight, —large stones or bags of sand answer perfectly. If travelling, leather straps and buckles, drawn tightly across the bundle, are used instead of weights.

10. After the specimens have lain a day under pressure, the paper about them must be removed, and dry papers substituted; and this process should be repeated at intervals of a day or two till the plants are perfectly dry. If *many* sheets of paper be placed between each layer of specimens, or if *open frames* be used instead of boards, the changes need not be so frequent. In changing it is not necessary to lift every specimen from the sheet on which it lies; but if a dry sheet be placed over the specimens, the latter, with the moist sheet, may be tilted over to the dry, and the moist sheet then removed, and this process repeated through the bundle. Much time and trouble may thus be saved.



11. On the first day of shifting, a sharp look-out should be kept for *caterpillars*, which are apt to secrete themselves in flowers, and, if not at once removed, will quickly destroy the specimens under pressure.

12. In fine weather the bundles of specimens, weighted or strapped, may be exposed to the strongest heat of the sun; but as this causes a rapid extraction of moisture, in order to insure its passing away, the plants must, on bringing in, and while still warm, be shifted into fresh papers: otherwise mouldiness and decay, and not exsiccation, will ensue. Artificial heat, not greater than 140°, may be substituted in wet weather.

13. In drying plants within the tropics, and in all damp and hot climates, frequent shifting of papers is necessary; if neglected, the specimens will either fall to pieces, or become mouldy and rotten.

14. Succulent plants, heaths, and plants with *compound* leaves (such as *Mimoseæ*), should be dipped (all but the flowers) for a few seconds into *boiling* water, before being placed in the drying papers. This will *kill* them, promote the drying of succulents, and prevent the heaths, &c., from shedding their leaves.

15. Plants with delicate corollas (*Irideæ*, *Oxalideæ*, &c.), should be placed between single leaves of very thin and soft, unglazed paper (filtering or tissue paper). In shifting to dry papers the tissue-paper is not to be removed, but lifted with its contents to the dry layer. This will prevent the flowers from curling up or perishing.

16. When the specimens are quite dry and stiff, a *single* sheet of paper is sufficient between each layer; they may be placed still more closely on the sheets, but not piled one on another; and, finally, in sending specimens from a distance, great care must be taken to protect the bundles, by sufficient covering, from the effects of external moisture, or from the attacks of insects.

---

Correspondents in South Africa are informed that packets of specimens, intended for the author, will be forwarded, if sent to the Hon. Rawson W. Rawson, C. B., Colonial Secretary, Capetown. They should be addressed on the outside, "Dried Specimens of Plants, for Professor W. H. Harvey, Trinity College, Dublin," and sent free to Capetown. If of moderate size, packets addressed from any part of the Colony "*To the Colonial Secretary, Capetown,*" go free through the local post, as sanctioned by a Government Notice (No. 387, 1857).



# CONSPECTUS TABULARUM:

OR,

## DESCRIPTION AND EXPLANATION OF THE FIGURES.

---

### I. GREYIA SUTHERLANDI, Hook. & Harv. (*Saxifragaceæ*?).

GEN. CHAR.—*Calyx* quinque-partitus, brevis, persistens, laciniis obtusis æstivatione imbricatis. *Petala* 5, oblonga, sessilia, calycis laciniis alterna, basi maculata, decidua, æstivatione imbricata. *Stamina* in fundo calycis inserta, subhypogyna, biseriata; 10 exteriora ananthera, in cupulam carnosam connata, filamentis brevissimis apice glandulâ peltatâ coronatis; 10 interiora fertilia, libera, exterioribus alterna, longissime exserta, filamentis subulatis, antheris ovatis erectis brevibus didymis longitudinaliter dehiscentibus. *Ovarium* liberum, profunde 5-sulcatum, ex carpidiis quinque induplicato-valvatis conflatum, uniloculare, apice in *stylo* attenuatum. *Stylus* subulatus, exsertus; stigma simplex. *Ovula* suturales, indefinita. *Capsulae* folliculares, ad suturas leviter cohaerentes, chartaceae. *Semina* minuta, testâ membranaceâ, albumine copioso carnosio, embryonis orthotropi radiculâ hilo proximâ.—*Arbor mediocris*, foliis alternis simplicibus crenato-lobatis exstipulatis petiolatis, petiolo basi dilatato amplexicauli; racemis terminalibus densis, pedicellis basi bracteolatis, floribus cocciniis speciosissimis.

**G. Sutherlandi**, Hook. & Harv. MSS.—Harv. in *Proceedings of the Dublin University Zoological and Botanical Association*, vol. i., part 2, p. 138, t. 13-14.

HAB. in rocky, exposed mountain situations, near Port Natal, from 2000 to 6000 feet elevation, *Dr. Sutherland*. (Herb. T. C. D.)

DESCR.—A small *tree* or large *shrub*, with light porous wood, and a gray bark. Branches leafy towards the extremities. Flowering branches naked for a space below the dense raceme. *Leaves* on long petioles, subrotund, deeply cordate at base, 2-4 inches diameter, multilobulate and crenate, glabrous, but minutely glandular. *Racemes* very dense, 2-4 inches long, many-flowered. *Pedicels* glabrous,  $\frac{3}{4}$  inch long, with a lanceolate bract at base. *Calyx* continuous with the pedicel. *Petals*



broadly oblong, sessile, of a thick, glossy substance, and bright crimson colour, thrice as long as the calyx, ciliolate. *Stamens* in two rows: those of the *outer* row abortive, connate into a fleshy cup or nectary, the anther replaced by a peltate gland; those of the *inner* row fertile, free, and much exserted. *Anthers* didymous. *Ovary* formed of 5 carpels, whose inflexed edges cohere round a very narrow central cavity, unilocular; placentæ at the ventral sutures. *Capsule* membranous, deeply 5-lobed, almost resolved into 5 follicles; seeds minute, with abundant fleshy albumen and a small basal embryo.

For a fuller account of this very remarkable plant, see the memoir above quoted. The exact natural affinities are, perhaps, not yet settled, and I place it in *Saxifragaceæ* provisionally. In some characters it agrees with *Brexia*; but the copious albumen in the seeds and the unilocular ovary are strong points of difference. The foliage is not unlike that of a *Ribes* or of the scarlet *Pelargoniums*.

The genus is, by Sir William Hooker and myself, dedicated in honour of *Sir George Grey, K. C. B.*, Governor-General of the Cape Colony; and the species is named after its discoverer, Dr. Peter Sutherland, Surveyor-General of Port Natal, to whom I am indebted for many other interesting plants, some of which will be figured in this work.

Fig. 1, a flowering branch, and Fig. 2, a leaf of *Greyia Sutherlandi*, the *natural* size. Fig. 3, bract, pedicel, and calyx; 4, a petal; 5, apex of a fertile stamen; 6, the ovary, surrounded by the ring of abortive stamens, or *nectary*; 7, the *nectary* laid open; 8, section of the ovary; 9, the ripe capsules; 10, section of a seed; 11, the embryo. The latter figures variously magnified.

## II. MELANOSTICTA BURCHELLII, DC.

(*Leguminosæ*.)

**M. Burchellii**, DC. *Leg. Mem. tab. 69, DC. Prod. 2, p. 485.*

HAB.—South Africa, *Burchell*, Cat., No. 2345. Near Port Natal, *Miss Owen*. (Herb. T. C. D.)

DESCR.—*Root* perennial, thick, and woody. *Stems* several, subsimple, erect, herbaceous or suffruticose at base, angular, sparsely plumoso-setose, as are petioles and peduncles. *Leaves* bipinnate; pinnæ two pair and an odd one; the lateral pinnæ stipellate, 6–8 foliolate, the terminal much longer, 16–18 foliolate; leaflets obliquely elliptical, flat, with immersed veins. Stipules membranous, lacerato-pinnatifid; stipellæ several, subulate. Peduncles opposite the leaves, elongate, laxly racemose, several-flowered; flowers pendulous, the corolla scarcely longer than the calyx. *Calyx* campanulate, short-tubed, deeply divided, the four posterior segments oblong, obtuse, sub-equal; the anterior longer and broader than the rest, sharply toothed at its extremity. *Petals* 5; the four anterior subequal, obovate, tapering into short claws; the posterior (*vexillum*) broad-based, with infolded edges, rather shorter and broader than the rest. *Stamens* 10, free, subhypogynous, with filiform-subulate filaments and rounded anthers; the 5 superior slightly setose, the rest glabrous. *Ovary* sessile, 4 ovuled, setose, oblong, tapering into a straight, short style; stigma simple. *Legume* 1–1½ inch long, 3–4 lines



broad, plano-compressed, slightly furrowed between the seeds, mucronate, covered with plumose setæ.—Stem, petioles, leaflets, peduncles, calyces, ovary, and legumes (all parts of the plant except the petals and stamens) are thickly sprinkled with black, hemispherical, resinous dots.

This is the only species of the genus yet known, and appears to be of rare occurrence. It was not found by *Ecklon*, *Drege*, *Burke*, or *Zeyher*. A solitary specimen, from which our figure is taken, was sent to me, in 1840, by Miss Owen, from some part of the Zooloo Country.

Fig. 1, *Melanosticta Burchellii*; the natural size. Fig. 2, a leaflet; 3, the calyx, artificially pulled open, and viewed in front; 4, the petals; 5, stamens; 6, ovary; and 7, the same, cut longitudinally. The latter figures more or less *magnified*.

### III. STERCULIA ALEXANDRI, Harv. (*Sterculiaceæ*.)

**S. Alexandri:** foliis digitatim compositis quinatis; foliolis oblongis obtusis mucronulatis basi acutis glabris reticulatis; racemis pauci-floris petiolo brevioribus; calyce campanulato 5–7 fido utrinque puberulo.—*Harv. Proc. Dub. Univ. Zool. & Bot. Assn.*, vol. i., p. 140, t. 15.

**HAB.**—Mountain Kloof, near Uitenhage; very rare. *Dr. Alexander Prior*. (Herb. T. C. D.).

**DESCR.**—A small, soft-wooded, thick-stemmed tree, with naked, rough-barked branches, leafy towards the extremities. *Leaves* alternate, digitate, glabrous; the petiole 2–4 inches long, expanded and articulated at the summit; leaflets 5–7, oblong, cuneate at base, obtuse and round-pointed, mucronulate, strongly midribbed, reticulated with closely branching veinlets. *Stipules* none. *Racemes* axillary, few-flowered, much shorter than the petiole; peduncles multibracteate at base, thinly pubescent; pedicels slender, longer than the calyx. *Calyx* campanulate, 5–7 cleft; segments ovate-oblong, subacute, thinly downy, and velvety-canescant on both surfaces. *Staminal* column curved, puberulous. Female flowers not known.

Allied to *S. foetida*, but with very differently shaped leaflets; much shorter racemes; and the calyces internally thinly pubescent, not densely hirsute and woolly. It is not a little curious that a conspicuous shrub or tree like this should have escaped the notice of the lynx-eyed *Zeyher*, who so long resided at Uitenhage, and must have repeatedly botanized all round its locality.

Fig. 1, *Sterculia Alexandri*, the *natural* size. Fig. 2, the staminal column, with a portion of the calyx, shown behind; 3, an anther. These figures *magnified*.

### IV. ANAGALLIS HUTTONI, Harv. (*Primulaceæ*.)

**A. Huttoni:** caulibus tetragonis decumbentibus v. basi repentibus vix ramosis, foliis rotundato-ovatis obtusis petiolatis, pedicellis folio longioribus, sepalis lanceolatis, corollæ rotatæ laciniis acutis, filamentis late-subulatis pilosis.—*Harv., Proc. Dub. Univ. Zool. & Bot. Assn.*, vol. i., p. 141, t. 16.



HAB.—Howison's Poort, near Grahamstown, *Mr. H. Hutton* (Herb. T. C. D.)

DESCR.—*Perennial?* Stems several, filiform, decumbent or prostrate, rooting occasionally from the lower nodes, quadrangular, 6–12 inches long, subsimple. Leaves 4–5 lines long, opposite, distinctly petiolate, broadly ovate, obtuse, or subacute, with slightly reflexed margins, pale underneath. Flowers white, pedicels filiform, nearly twice as long as the leaf. Sepals linear-lanceolate. Corolla rotate. Stamens broadly subulate, setose. Fruit-stalk revolute, pyxidium shorter than the calyx.

A new and distinctly characterized species of *Anagallis*, from South Africa, is the more interesting, because so few Primulaceous plants are found in that country. With the exception of the common *A. arvensis*, which is naturalized throughout the Colony, this is the only representative of the genus at the Cape; and the only other Cape plants of the Order are *Lysimachia* (*Coxia*) *atropurpurea*, and two species of *Samolus*. I am indebted to Mr. Henry Hutton for several excellent parcels of plants, and hope to figure many more of his discoveries as this work proceeds.

Fig. 1, *Anagallis Huttoni*, the natural size. Fig. 2, a corolla laid open, with the stamens *in situ*; 3, a stamen; 4, a ripe capsule (*pyxidium*), subtended by the persistent calyx; 5, a leaf. The latter figures magnified.

## V. GARDENIA GLOBOSA, Hochst.

(*Rubiaceæ*.)

**G. globosa:** foliis brevi-petiolatis lato-lanceolatis glaberrimis, floribus terminalibus solitariis ternisve subsessilibus, calycis pubescentis limbo brevi 5-dentato, corollæ tubo late-campanulato utrinque villosio limbo profunde 5-lobato lobis ovatis acutis patentibus, ovario oblongo, fructu globoso majusculo.—*Hochst. Flora*, vol. xxv., p. 237; *Walp. Rep.*, vol. ii., p. 944; *Krauss, Fl. Nat.*, p. 66; *Hook. Bot. Mag.*, t. 4791.

HAB.—Sea coast, near Natal, extending to 1200 feet elevation. *Krauss* (467), *Gueinzus*, *Dr. Sutherland*, &c. (Herb. T. C. D.)

DESCR.—A low tree or shrub, glabrous, except on the leaf-buds, young leaves, and inflorescence. Leaves 3–4 inches long, an inch or more broad, acute at each end, or sub-obtuse, membranaceous, glossy, penninerved. Flowers 1 or 3 in a terminal cymule; pedicels very short, articulated with the calyx. Calyx tube 2 lines long, appressedly pubescent, bibracteolate at base; limb campanulate, short, sharply 5-toothed, the teeth ridged and acuminate. Corolla white, villous on both surfaces,  $1\frac{1}{2}$  inch long,  $\frac{3}{4}$  inch diameter, or larger, campanulate, obtuse at base, the lobes broadly ovate, nearly  $\frac{1}{2}$  inch long. The stigma figured in our Plate is an abortive one; the perfect stigmata are shortly bifid.

Fig. 1, *Gardenia globosa*, the natural size. Fig. 2, inferior ovary and calyx, with the style and (abortive) stigma; 3, the ovary cut longitudinally; 4, corolla laid open. All but the corolla magnified.



VI. EHRETIA ZEYHERIANA, Buek.

(*Boragineæ*.)

**E. Zeyheriana:** ramulis junioribus pedunculisque fuliginoso-puberulis, foliis petiolatis lato-ellipticis oblongisve subacutis v. obtusis lævibus margine vix squamulosis, cymis multifloris extra-axillaribus, calycibus 5-fidis obtusis pubescentibus, corollæ lobis obtusis margine vix fimbriolatis.—*E. Zeyheriana*, Buek. in *Herb. Eck. & Zey.*

HAB.—Near Uitenhage, Zeyher, Dr. Alexander Prior. Albany, T. Williamson. (Herb. T. C. D.)

A shrub. Young branches somewhat angular, virgate, dark-coloured or smoky, and thinly covered with minute, deciduous pubescence. *Leaves*  $1\frac{1}{4}$ –2 inches long,  $1-1\frac{1}{2}$  inch wide, elliptical, obtuse, or subacute, pale below, all but the very young ones glabrous, except at the margin, which is minutely scaly. *Cymes* trichotomous, much divided, nigro-pubescent. *Flowers* dark purple, the calyx one-third as long as the corolla, style shortly bifid.

Very nearly allied to *E. Hottentotica*, Burch., which appears to be the same as *E. Eckloniana*, Buek.; but in *E. Zeyheriana* the leaves are larger, less obovate, thinner, not so rough at the edges; the calyx lobes are blunter, and the twigs more virgate. These characters may be owing to a freer growth in better soil, and eventually the two varieties will perhaps be united.

Fig. 1, *Ehretia Zeyheriana*, the natural size. Fig. 2, the calyx; 3, the corolla, laid open; 4, apex of a stamen; 5, the ovary and style; 6, the ovary, cut across. The latter figure magnified.

VII. ANEMONE CAFFRA, Eck. & Zey.

(*Ranunculaceæ*.)

**A. caffra:** acaulis; foliis rigidis glabrescentibus 5–7 lobis, lobis biserratis, petiolis villosis, pedunculo scapiformi unifloro basi villosa supra involucre parvum dense lanato, sepalis pluribus lanceolatis glabriusculis v. extus parcissime villosis.—*Eck. & Zey. En.*, No. 4; *Harv. & Sond. Fl. Cap.*, vol. i., p. 4; *A. alchemillæfolia*, E. Mey. in *Herb. Drege*.

HAB.—Eastern districts and Caffraria, on grassy hills, Ecklon & Zeyher, Col. Bolton, and others. (Herb. T. C. D.)

DESCR.—Rootstock woody, throwing up several long-petioled leaves, and one or more scape-like peduncles. *Leaves* palmately nerved, about 7-lobed, the lobes sharply and somewhat doubly serrate; upper surface nearly glabrous, lower villous, especially on the prominent nerves. Involucre of 2–3 small leaves. Peduncle  $1-1\frac{1}{2}$  feet high, densely woolly for 2–3 inches below the flower, silky towards the involucre, below which it is either villous or glabrescent. *Flowers* rosy white, the petals thinly villous externally, or nearly glabrous.

Fig. 1, *Anemone caffra*, the natural size; 2, a petal; 3, the stamens and ovaries; 4, a stamen; 5, an ovary; 6, section of an ovary, to show position of the ovule. The latter figures magnified.



## VIII. CLEMATIS THUNBERGII, E. &amp; Z. (Ranunculaceæ.)

**C. Thunbergii**: pubescens, foliis sub-bipinnatim partitis, pinnis distantibus, foliolis petiolatis ovato-lanceolatis trifidis tridentatisve laciniis mucronulatis, paniculis folio brevioribus, alabastris ovatis acutis, sepalis patentibus ovato-lanceolatis acuminatis, filamentis basi pilosis, antheris glabris linearibus.—*E. & Z., Enum.*, No. 2; *Harv. & Sond. Fl. Cap.*, vol. i., p. 2; *C. triloba. Thunb.*, fide *E. & Z., l. c.*, non Heyn.

HAB.—Woods of Adow, Uitenhage, *Ecklon & Zeyher.* (Herb. T. C. D.)

DESCR.—A slender climber, thinly pubescent, the older parts becoming glabrous. *Leaves* 5–6 inches apart, on long, horizontally patent petioles, with 1–2 pair of leaflets, and an odd one. The lower leaflets are again compounded; the ultimate divisions petiolate, variously cleft, or sub-entire. Cymes few flowered. Flower-buds half an inch long, ovate-acuminate, the point often twisted; sepals externally thinly pubescent, internally tomentose. Stamens filiform, hairy at base. Carpels feathery, long-tailed.

Known from *C. brachiata*, a much commoner species, by the *acuminate* sepals and flower-buds.

Fig. 1, *Clematis Thunbergii*, the *natural* size. Fig. 2, a petal; 3, a stamen: *magnified*.

## IX. CLEMATIS OWENIÆ, Harv. (Ranunculaceæ.)

**C. Oweniæ**: dense pubescens, foliis bipinnatim partitis, pinnis 3–4 jugis cum impari distantibus trifoliolatis, foliolis ovatis acuminatis grosse dentatis lateralibus minoribus subsessilibus medio petiolato, paniculis axillaribus folio brevioribus, alabastris obtusis, sepalis patentibus elliptico-lanceolatis obtusis, filamentis filiformibus infra hirsutis, antheris ovalibus, brevibus.—*Harv. & Sond. Fl. Cap.*, vol. i., p. 2.

HAB.—Near Port Natal, *Miss Owen.* (Herb. T. C. D.)

DESCR.—Slender, climbing, densely pubescent and subcanescent in all parts. *Leaves* horizontally patent and deflexed, pinnate or mostly bipinnate, with three or four pairs of pinnae. Ultimate leaflets sharply toothed, and with prominent veins on the lower surface. Flowers small, white; sepals not half an inch long, somewhat elliptic-lanceolate, but quite obtuse. Anthers very short.

Distinguished from all varieties of *C. brachiata* by its short anthers, the more uniformly pubescent foliage, and the smaller flowers. I gladly inscribe this new species of “*Virgin’s Bower*” to its discoverer, to whom I am indebted for several other interesting plants. Miss Owen accompanied her brother, the Rev. Mr. Owen, on a mission to the Zooloo Country about the year 1839–40, and the botanical specimens collected during the route were given to me, shortly afterwards, by Mr. Henry Rutherford, of Grahamstown.

Fig. 1, *Clematis Oweniæ*, the *natural* size. Fig. 2, a petal; 3, a stamen: *magnified*.



X. DISCOCAPNOS MUNDTII, Ch. & Schl. (Fumariaceæ.)

**D. Mundtii**: *Cham. & Schl. in Linn.*, vol. i., p. 569; *E. & Z., En.*, No. 24; *Harv. & Sond. Fl. Cap.*, vol. i., p. 18 (var. *a*, *Mundtii*).

HAB.—Among shrubs. Hills round Capetown, *Mundt & Maire*. Near the Waterfall, Devil's Mt., *Ecklon & Zeyher*. Camp's Bay, *W. H. H.*

DESCR.—*Root* annual. *Stems* weak and straggling, succulent, 1–2 feet long, angular, glabrous. *Leaves* 2–3 inches apart, on long petioles, bi-tripinnately parted; the pinnæ alternate, tripartite, or pinnate, with broadly cuneate, deeply cut leaflets, glaucous on the under side. *Racemes* opposite the leaves, at length 3–4 inches long, several flowered. *Flowers* minute, pale, with dark-purple tips. *Petals* connivent at the points, the posterior one with a blunt, saccate spur of nearly its own length. *Fruits* 1–1½ lines diameter, minutely roughened on the disc.

Fig. 1, *Discocapnos Mundtii*, var. *a*; the natural size. Fig. 2, a flower; 3, its posterior petal; 4, one parcel of stamens; 5, the fruit. These figures magnified.

XI. PENTARRHINUM INSIPIDUM, E. Mey. (Asclepiadaceæ.)

**P. insipidum**: ramulis bifariam puberulis, foliis cordatis acutis basi 5–7 nerviis, pedunculis folium subæquantibus superantibusque breviter racemosis, coronæ stamineæ foliolis inferne compressis superne processu rostrato instructis,—*E. Mey. Com. Drege*, p. 200; *Dne. in DC. Prod.* 8, p. 553; *Cynanchum foliis cordato-sagittatis fructu cucumerino*, *Burm. Pl. Rar. Afr.*, p. 38, t. 16, f. 2.

HAB.—Near Enon; Uitenhage, *Drege, Dr. Alexander Prior*; also at Klein Winterhoek, 800 ft., and Zondagrivier, near Blaauwekraus, 1700 feet, *Drege*. Zooloo Country, *Miss Owen*. (Herb. T. C. D.)

DESCR.—*Stem* terete, pale, climbing through bushes; branches twining, tapering to a thread-like end, with a line of minute hairs at each side. *Leaves* distant, 2–4 inches apart, opposite, on long, slender petioles, cordate, acute or acuminate, with a deep, basal, rounded sinus and rounded lobes, membranaceous, glabrous, or very minutely puberulous, especially on the ribs. *Racemes* dense, subcorymbose, downy; pedicels twice or thrice as long as the flowers; bracts subulate, deciduous. *Flowers* green, or dull greenish brown or livid purple. Corolla reflexed. *Follicles* ovate-oblong, rough with short tubercles, solitary or in pairs.

The young pods, which are tasteless, are eaten by the Hottentots. They are shaped like cucumbers.

Fig. 1, *Pentarrhinum insipidum*, young branch. Fig. 2, a flower; 3, two of the segments of the corona staminea, in different aspects; 4, the anthers surrounding the stigma; 5, stigma; 6, a pair of pollen-masses. The latter figures more or less magnified.



## XII. MODECCA DIGITATA, Harv.

(Passifloraceæ.)

**M. (Blepharanthus) digitata**: caule herbaceo volubili striato; foliis breviter petiolatis digitatim 3-5-partitis laciniis pinnatifidis glabris marginatis basi glandulosis, stipulis subnullis, racemis paucifloris petiolum subequantibus, calyce infundibuliformi basi attenuato, petalis lanceolatis calycis limbo brevioribus.

HAB.—In the Zooloo Country, *Miss Owen*. (Herb. T. C. D.)

DESCR.—*Root* thick and woody, perennial, throwing up herbaceous, coarsely striated or angular, vine-like stems. *Leaves* alternate, 2-3 inches apart, 2-3 inches long, triangular in outline, divided nearly to the base into 5 digitate lobes, glabrous and glaucous, thickish, with a thickened margin and prominent ribs. The middle lobe is pinnatifid, with oblong, bluntish segments and rounded angles, the lateral lobes are less regularly cut, and the basal pair are generally lobed only on the lower edge. There are generally two large flat glands at the base of the lamina, on its upper side, and a similar, but smaller, gland between each lobe on the under side. The peduncles of male flowers are thick and short, 4-6 flowered. Calyx funnel-shaped, tapering at base, the limb erect, 5-cleft, the edges of the segments veiny and inflexed. Petals inserted much below the base of the calyx segments, narrow lanceolate, included. *Stamens* 5, hypogynous, on slender filaments; anthers linear, apiculate. A small abortive ovary occupies the base of the calyx. Female flowers unknown. *Tendrils* simple, axillary (abortive inflorescences).

Obviously allied to the East Indian *M. palmata*, but differing in inflorescence, calyx, corolla, and other particulars. It seems to have escaped the notice of all collectors but *Miss Owen*, to whom I am indebted for the specimen here figured. I trust this figure may induce some friend at Natal to send the *female* flowers, seed-vessels, and ripe seeds.

Fig. 1, *Modecca digitata*, part of a flowering branch. Fig. 2, end of a branch bearing tendrils, the *natural* size; 3, a flower laid open; 4, a petal; 5, a stamen. The latter figures *magnified*.

## XIII. MACKAYA BELLA, Harv.

(Acanthaceæ.)

GEN. CHAR.—*Calyx* parvus, nudus, 5-partitus, equalis, laciniis subulatis. *Corolla* e tubo cylindraceo campanulata, limbo venoso subequali erecto. *Stamina* circa apicem tubi inserta; duo fertilia antheris sagittatis bilocularibus æquilateris; duo inferiora ananthera filiformia. *Stylus* filiformis; stigma minuta, bifida. *Ovarium* loculis medio bi-ovulatis. *Capsula*?—*Frutex gracilis inermis; foliis supra minute punctatis repandis, racemis terminalibus laxe secundi-floris, bracteis bracteolisque infra medium pedicellorum minimis, floribus magnis speciosis lilacinis.*

**Mackaya bella**, Harv. in *Proc. Dub. Un. Zool. & Bot. Assn.* (in-ed.).

HAB.—Growing among stones in the river-bed of the Tongat River, 30 miles from Natal, Mr. J. Sanderson. (Herb. Hook., T. C. D.)



DESCR.—A tall, slender, nearly glabrous shrub, with virgate branches. *Leaves* on short petioles, patent, ovate-oblong, 2–3 inches long, glabrous, but minutely granulated on the upper surface, repand, obtuse or sub-acuminate, veiny. *Racemes* terminal, unilateral (cymoid), many flowered; bracts opposite, minute, subulate; pedicels 2–3 lines long, cernuous, bracteolate at a line from the base. *Calyx* continuous with the pedicel, equally 5-partite, with narrow-subulate segments. *Corolla* nearly two inches long, pale-lilac, of thin, membranous substance and veiny, tubular below, campanulate upwards, with a deeply 5-lobed, subequal, erect limb; the segments oblong, blunt. *Stamens* inserted at the top of the narrow part of the corolla, shorter than the limb; two perfect, with sagittate, equal-sided, 2-celled anthers; two filiform, nearly as long as the others, without anthers. *Style* filiform, with a minute, bifid stigma; ovary bilocular, with 2 ovules in each cell. *Capsule* unknown.

Described by *Mr. Sanderson*, its discoverer, as a beautiful shrub, “one mass of most delicate, pendant, pale-lilac, campanulate flowers.” Our figure, taken from a dried specimen, is perhaps too stiff, nor have we been able, probably, to restore the delicate corolla to its true form. I trust that this ornamental plant may before long be introduced to English gardens. The generic name is given in honour of my venerable friend, JAMES TOWNSEND MACKAY, LL. D., author of *Flora Hibernica*, and for many years the able superintendent of the Dublin University Botanic Gardens. “*Mackaya*” Arn. is the same as *Erythropalum* of Blume, as I am informed by Dr. Hooker.

Fig. 1, *Mackaya bella*, the natural size. Fig. 2, the calyx; 3, portion of the limb of the corolla, showing the venation; 4, the stamens; 5, an anther; 6, ovary (cut open) and style; 7, stigma. More or less magnified.

#### XIV. CEROPEGIA BOWKERI, Harv.

(*Asclepiadaceæ*.)

**C. Bowkeri**: erecta glabra; caule tenui sub-ancipiti simplici, foliis anguste linearibus utrinque acutis internodio longioribus, pedunculis axillaribus unifloris vix uncialibus, sepalis anguste linearibus, corollæ tubo tenuiter striato urceolato inferne ventricoso, limbi laciniis tubum equantibus liberis lato-linearibus plumoso-ciliatis intus villosis, coronæ stamineæ lobis exterioribus anguste-triangularibus margine villosis, interioribus ligulæformibus glabris duplo longioribus.

HAB.—In Kreili's Country, Caffraria, *Henry Bowker, Esq.* (Herb. T. C. D.)

DESCR.—*Root?* *Stems* solitary, 1–2 ft. high, sub-compressed, a line broad, quite simple. *Leaves* 2–3 inches long, 2 lines broad, lanceolate-linear, acute at each end, glabrous, the margin sub-reflexed and thickened, and the rib prominent below. *Pedicels*  $\frac{3}{4}$  inch long, single-flowered, axillary, bracteate at base. *Calyx* lobes very slender, linear-subulate, mottled with purple. *Corolla-tube*  $2\frac{1}{2}$  times longer than the calyx, marked with purple striæ, swollen at base, constricted in the middle, and again expanded at the summit, about an inch in length; *limb* as long, each lobe from a cordate, reflexed base, broadly linear, acute,  $1\frac{1}{2}$  lines broad, vil-



lous within, and margined with long, golden, gland-tipped, horizontal ciliæ. *Outer corona-staminea* obconical, with ten narrow-triangular, woolly-edged lobes, approaching in pairs; *inner* twice as long, of 5 glabrous, strap-shaped leaflets. Follicles unknown.

A very beautiful and curious species, for which I am indebted to Mrs. Barber; and, in giving it her family name, I express my gratitude to the donor as well as the discoverer.

Fig. 1, *Ceropegia Bowkeri*, the *natural* size. Fig. 2, a calyx; 3, one of the segments of the corolla; 4, the corona-staminea; 5, a pair of *erect* pollen masses.

## XV. OTHONNA SCAPIGERA, Harv.

(*Compositæ*.)

[**O. scapigera**: collo crasso multiplici lanuginoso, axillis hirsutolanatis, foliis radicalibus numerosis linearibus acutis carnosocoriaceis lævibus margine integerrimo, scapis erectis unifloris subnudis bractea una alterave prope apicem instructis, involucri squamis octo lanceolatis marginatis, ligulis parvis subinvolutis, acheniis glabris pappo rufescente copioso brevioribus.

HAB.—Near Port Natal, *Dr. Sutherland*. (Herb. T. C. D.)

DESCR.—Near *O. retrorsa*, var.  $\beta$  (DC. Prod. 6, p. 479), but the leaves do not taper to the base, the margin is perfectly entire, the ligules have involute margins, and the scapes, in our specimens at least, are single-flowered. The villosity on the column and in the axils is more hairy than woolly, of a dirty-brown colour. The pappus is copious, and reddish-coloured.

Fig. 1, *Othonna scapigera*, the *natural* size. Fig. 2, a female flower of the ray; 3, apex of the fertile style; 4, apex of one of the setæ of the pappus; 5, a male flower, of the disk; 6, apex of its abortive style; 7, its 5 anthers, laid open. The latter figures *magnified*.

## XVI. TOXICOPHLÆA THUNBERGII, Harv.

(*Apocynæ*.)

**T. Thunbergii**: Harv. in Hook. Lond. Journ. Bot., vol. i., p. 24; *T. cestroides*, A. DC. Prod. 8, p. 336; *Cestrum venenatum*, Thunb. Fl. Cap., p. 193.

HAB.—In woods. Houtniquas, *Thunberg*. Kaymansgat, under 500 feet, and Glenfilling, under 1000 feet. Sep.-Jan., *Drege*. S. Africa, *Ecklon & Zeyher*. Mossel Bay, *Dr. R. C. Alexander Prior*. (Herb. T. C. D.)

DESCR.—A small tree or large shrub, with virgate, angular branches, and dark-coloured, dotted bark. *Leaves* in opposite, decussating pairs, obovate-elliptical or broadly ovato-lanceolate, mucronate or acute, or acuminate, tapering to the base, on short petioles, penninerved, glabrous and glossy, with sub-reflexed, often scaberulous margins. *Flowers* sweetly scented, in axillary, many-flowered fascicles. *Calyx* short, glabrous, or downy. *Corolla*  $\frac{1}{2}$  inch long, externally sparsely or densely pubescent, white, with a rosy tinge; the 5 lobes ovate-acuminate, horizontally patent. *Genitalia* included. *Orules* solitary.



This is the "*Gift-boom*" or Poison-tree of the colonists. According to Thunberg, the aborigines formerly used a decoction of the bark, reduced to the consistence of jelly, for poisoning their arrows. The flowers are scented like jessamine. "*Strychnos Abyssinica*," Hochst. in *Pl. Schimp.*, No. 254, seems to be allied to our plant.

Fig. 1, *Toxicophlœa Thunbergii*, natural the size. Fig. 2, a flower; 3, apex of the corolla, cut open; 4, apex of an unopened flower-bud; 5, a sepal; 6, back view, and 7, front view of an anther; 8, the ovary, style, and stigma; 9, cross-section of ovary. The latter figures *magnified*.

## XVII. PTÆROXYLON UTILE, E. & Z.

(*Sapindaceæ*?)

**Pt. utile**: *Eck. & Zey. Enum.*, p. 54, No. 418; *Harv. Gen. S. A. Pl.*, p. 37; *Pappe, Sylva Capensis*, p. 5.

HAB.—Common in the forests of the eastern districts. (Herb. T. C. D.)

DESCR.—A tree, with a trunk 20–30 ft. high, and 2–4 ft. in diameter. Young twigs and petioles minutely puberulous. *Leaves* abruptly pinnate, of 4–5 pair of leaflets. Leaflets opposite or sub-opposite, oblique, almost dimidiate, oblong, truncate at base, obtuse or emarginate at the apex, penninerved, glabrous and glossy,  $\frac{3}{4}$ –1 inch long,  $\frac{1}{2}$  inch or more wide. *Flowers* unisexual, both inflorescences cymoso-paniculate, the peduncles crowded about the ends of the branches. *Male fl.*, *Petals* 4, oblong, flat, spreading. *Stamens* 4, hypogynous, exserted. A small abortive ovary. *Female fl.*, *Petals* linear, subconcave. *Stamens* 4, abortive, very short. *Ovary* ovate, bilocular, tipped with a style of its own length; stigmata two, spreading. *Orules* one in each cell, erect, on a basal, axile placenta. *Capsule*  $\frac{3}{4}$  inch long, oblong, compressed, emarginate at each end, glossy brown, veiny, splitting at maturity into four deciduous valves. *Seeds* with a membranous wing; albumen none; embryo with accumbent, flattish, cotyledons, and a taper radicle.

This is the Nieshout or Sneezewood of the colonists. The wood is strong, durable, handsome, and takes a fine polish, and is used in making furniture, and for agricultural implements. Its name *Sneezewood* is given because, when freshly worked, it emits effluvia that cause violent sneezing. It is also said to be an excellent firewood, even when green.

Fig. 1, *Ptæroxylon utile*, end of a flowering-branch, the *natural* size. Fig. 2, a male flower; 3, the same, unopened, to show the *valvate* petals; 4, a female flower; 5, the ovary, style, and stigma; 6, ovary, cut vertically; 7, a capsule; 8, the same as it opens; 9, a winged seed; 10, an embryo. The latter figures *magnified*.

## XVIII. GEUM CAPENSE, Thunb.

(*Rosaceæ*.)

**G. Capense**: collo folioso lignoso caulibusque floriferis gracilibus erectis nudiusculis, foliis radicalibus longe petiolatis pinnati-sectis hirsutis lobo ultimo maximo orbiculari crenulato pinnis parvis incisodentatis, petalis rotundato-obovatis calyce longioribus, aristis nudis torto-geniculatis glabrescentibus.—*Thunb. Prod.*, p. 91; *Fl. Cap.*, p. 428; *DC. Prod.* 2, p. 553; *E. & Z., En.*, No. 1702.



HAB.—Near Grahamstown, *Ecklon & Zeyher*, *T. Williamson*, *Col. Bolton*, &c. Chumiberg, and in Tyalis Country, Caffraria, *E. & Z.* Grassy places on the Katberg, 3–4000 feet, and on the Witberg, 6–7000 feet, *Drege*. (Herb. T. C. D.)

DESCR.—*Root-stock* short and thick, bearing many rosulate leaves, 5–6 inches long, and several branching flowering stems, 1–2 feet high. Radical leaves on softly hairy petioles, pinnate-parted, the terminal lobe subrotund, many nerved, crenulate, 2–2½ inches long and broad, hairy, especially on the upper surface; the lateral pinnæ very small, sometimes obsolete, cut or entire. *Flowering-stems* villous and minutely glandular when young, becoming subglabrous, with a few small, trifid or simple, scattered, dentate leaves; branched above, each branch bearing a flower. *Calyx* hairy, the outer segments linear, narrow; inner semi-lanceolate or narrow-triangular. *Petals* bright yellow, broad, longer than the sepals. *Carpels* densely hairy, with a glabrescent, twisted awn.

A handsome plant, not unworthy of cultivation. I am indebted to *Col. Bolton* for the specimen here figured.

Fig. 1, *Geum Capense*. Fig. 2, reverse side of a flower; 3, carpels enlarged toward ripening, all of the natural size; 4, a carpel. Somewhat *magnified*.

## XIX. ACRIDOCARPUS NATALITIUS, A. Juss. (*Malpighiaceæ*.)

**A. Natalitius**: caule scandente? foliis alternis oblongis v. obovato-oblongis glaberrimis rigidis margine reflexo, racemis terminalibus simplicibus longissimis multifloris ferrugineis, bracteolis subulatis eglandulosis; samaræ glabriusculæ ala extrorsum ascendente oblique oblonga.—*A. Juss. Archiv. Mus.* 111, p. 486; *Walp. Repert.* 5, p. 287.

HAB.—Port Natal, *Krauss*, No. 261, *Gueinzus*, *T. Williamson*, &c. (Herb. T. C. D.)

DESCR.—A large, probably climbing shrub, with laurel-like leaves, and long terminal racemes of (yellow?) flowers. *Leaves* 4–6 inches long, 1–2 inches wide, obtuse or subacute, narrow-oblong or somewhat obovate, in all my specimens alternate, sometimes “sub-opposite” (*A. Juss.*), quite glabrous, the upper surface shining, with the veins impressed, the lower paler, with prominent veins and slightly inflexed margin. *Peduncle*, pedicels, and calyx covered with very short, rust-coloured pubescence; pedicels much longer than the flowers, each bracteate at base. *Calyx* obtusely 5-parted, with 2–3 glands externally. *Petals* roundish-obovate, jagged at the margin, spreading. *Samaræ* minutely rufescent at first, afterwards nearly glabrous; the wing pale, oblong, somewhat falcate, striate, an inch in length, more than ½ inch wide.

Fig. 1, *Acridocarpus Natalitius*, the natural size. Fig. 2, reverse view of the calyx; 3, a petal; 4, an anther; 5, ovary and styles; 6, mature fruit. These figures (except the last) somewhat *enlarged*.

## XX. BRACTEOLARIA RACEMOSA, Hochst. (*Leguminosæ*.)

**B. racemosa**: glabrescens, foliolis ovato-lanceolatis acuminatis supra nitidis subtus reticulatis glabratis, racemis puberulis laxiuseculis, calycis segmentis dentatis, bracteolis lanceolatis.



HAB.—Port Natal, *Krauss*, *Gueinzus*. (Herb. T. C. D.)

DESCR.—A climbing (?) shrub, with a dark-coloured, roughish bark. Twigs terete, tapering much to the extremity, appressedly pubescent, afterwards naked. *Leaves* on petioles  $\frac{1}{2}$ – $\frac{3}{4}$  inch long, unifoliolate; leaflet 2 inches long, nearly one inch broad, subacute at base, tapering to the acute apex, the upper surface dark-green and somewhat shining; the lower closely netted: young leaves puberulous. *Stipules* caducous, lanceolate-subulate, spreading. *Racemes* shorter than the leaf, several flowered; pedicels elongate, filiform, bracteolate in the middle or naked, 1 or 2–3-flowered. *Calyceine bracts* two, lanceolate, shorter than the calyx. *Calyx* splitting into two segments, the posterior bidentate, the anterior tridentate. Stamens 10, glabrous. Flowers white? petals spreading; the vexillum very wide, alæ oblong, with narrow claws, the keel petals, each with a fossa near its base.

The genus *Bracteolaria*, founded by Hochstetter for the present plant, now includes at least two others, natives of the west coast of tropical Africa. It is nearly allied to *Baphia*.

Fig. 1, *Bracteolaria racemosa*, end of a flowering branch, the *natural* size. Fig. 2, an unopened flower, on its pedicel; 3, petals; 4, calyx, with stamens and ovary; 5, a stamen; 6, the ovary. The latter figures *enlarged*.

## XXI. KRAUSSIA FLORIBUNDA, Harv.

(*Rubiaceæ*.)

**K. floribunda**: ramis atrosanguineis quadrisulcatis, foliis ovato-oblongis lanceolatisve subacutis, cymis axillaribus laxiuscule paniculatis folium subbrevioribus, calycis limbo quinque-fido obtuso, stigmatē maximo clavato stylum longiore.—*Harv. in Lond. Journ. Bot.*, vol. i., p. 18; *Sond. Linn.* 23, p. 52.

HAB.—Port Natal, *Krauss*, No. 121; *Gueinzus*, 109, 111, 551, fide Sonder. (Herb. T. C. D.)

DESCR.—A glabrous shrub, with glossy leaves and axillary cymes of white (?) flowers. Young twigs somewhat virgate, reddish-brown, subangular, and 4-furrowed. *Leaves* shortly petiolate, ovate-oblong, or broadly lanceolate, subacute at each end, margined, glossy above, penninerved below, with a minute gland at the base of each nerve. *Stipules* ovate, mucronulate. *Cymes* trichotomous, the peduncle nearly an inch long, bibracteate at the summit, the bracteoles on the branches scattered, small, sublanceolate. *Pedicels* twice as long as the calyx. *Calyx* oblong, with a 5-cleft, erect, short limb; the lobes very obtuse. *Corolla* subinfundibuliform, with a short, wide throat and spreading limb; the lobes oblong, obtuse, the throat densely hairy. *Stamens* exserted, filaments very short, anthers erect, attenuate. *Fruit* about the size of a garden-pea, globose, crowned with the calyx limb, 2, or by abortion, one seeded.

To this shrub, on which the genus *Kraussia* was founded in 1841, Dr. Sonder has added *Carpothermalis lanceolata*, *E. Mey*, MSS., and a new species, found by Dr. Gueinzus. The genus is nearly allied to *Pavetta*, but has a different corolla.



Fig. 1, *Kraussia floribunda*, the natural size. Fig. 2, a corolla, laid open; 3, ovary with style and stigma; 4, cross section of ovary; 5, bunch of fruit; 6, one of the fruits. All, but Fig. 5, somewhat enlarged.

## XXII. MITRASTIGMA LUCIDUM, Harv.

(*Rubiaceæ*.)

**M. lucidum:** *Harv. in Lond. Journ. Bot.*, vol. i., p. 20; *Psychotria obtusifolia* & *Psychotria* 2361, of *Drege's Collections*.

HAB.—Port Natal, *Krauss*, No. 178; *T. Williamson*, *Gueinzus*. Glenfilling, and near Strandfontein, and Matjesfontein, *Drege*. (Herb. T. C. D.)

DESCR.—A glabrous bush, with glossy leaves. Twigs with a dark-coloured bark, subcompressed, the ends of the branches sometimes hardening into imperfect spines. *Leaves* shortly petiolate, obovate or elliptical, obtuse, subacute at base, shining above, pale below, with few nerves, each with a gland at its base, the margin subreflexed. *Cymes* axillary, trichotomous, corymbose, many-flowered, about equalling the leaves, the peduncle 1–1½ inch long. *Pedicels* twice as long as the calyx. *Calyx* lobes very short, obtuse. *Corolla* funnel-shaped, with a patent or reflexed, 5- rarely 4-parted limb, the lobes narrow-triangular, acute, with valvate æstivation; the inner surface of the tube and throat hairy. *Anthers* subsessile, exserted. *Style* filiform, much exserted; stigma mitre-shaped. *Fruit* fleshy, 1–2 seeded, subcompressed.

A handsome bush, nearly allied to *Grumilia*; differing from *Kraussia* in the æstivation of the corolla, &c.

Fig. 1, *Mitrastigma lucidum*, and 2, a bunch of fruit, the natural size. Fig. 3, a flower; 4, an unopened flower; 5, corolla, laid open; 6, ovary, style, and stigma; 7, cross section of ovary. Somewhat enlarged.

## XXIII. PYRENACANTHA SCANDENS, Planch.

(*Passifloraceis affine*??)

**P. scandens:** undique patentim hirsuta, petiolis hirsutissimis, foliis ovato-oblongis basi subcordatis rotundatisve subangulatis repandis v. inequaliter subserratis, serraturis subtus glandula minima instructis.—*Pl. in Herb. Hook.*; *R. Br. in Horsf. Pl. Jar.*, p. 245; *Cavanilla scandens*, *Thunb.*, *Cap.*, p. 152; *Moldenhauera scandens*, *Spreng.*; *Harv. Gen. S. A. Pl.*, p. 411; *Adelanthus scandens*, *Endl. Gen.*, No. 6839; *Cissus*, 7528, *Drege*.

HAB.—In woods, &c., Grootvadersbosch, *Thunberg*. Forests of the Van Staaden Mountains, *Zeyher*, *Dr. Alexander Prior*. Kooratra, under 1000 feet, *Sepr.*, *Drege*. Port Natal, *Krauss* (126), *Gueinzus*. (Herb. T. C. D.)

DESCR.—*Stem* woody, climbing, the older parts with a gray, rough bark; the young branches terete, elongate, and twining, densely setose, with patent, yellowish bristles. *Leaves* alternate, 2–3 or more inches apart, on very hairy, short, or longish petioles; lamina 2–2½ inches long, and 1–1½ broad, variable in shape and in the indentures of the margin; sometimes angular at base or at the sides, usually minutely



repand, with prominent, gland-like denticles, sometimes lacero-dentate, either obtuse or acute, the upper surface sparsely, the lower densely, hispid with simple hairs. Male spikes on long, hairy peduncles, many-flowered, lengthening, and finally 2 inches long, or more. Flowers sessile; perianth 4-parted, with imperfectly valvate aestivation, hairy on the outer surface, smooth within. *Stamens* 4, alternate with the segments, inserted at the base of a small, gland-like, abortive ovary. *Female flowers* in short, oblong, few-flowered, or sub-capitate, pedunculate spikes. *Perianth* as in the male. *Stamens* none. *Ovary* hispid, unilocular, crowned with a sessile, multiradiate, subindusiate stigma; ovules in pairs (one generally abortive), pendulous from the apex of the cell. *Drupe* oblong, hispid,  $\frac{3}{4}$  inch long.

This curious plant has received three generic names, besides that now adopted, which was given by Hooker, in 1831, to an East Indian species of similar floral structure. Its affinities have been repeatedly discussed; but the question remains unsettled. No doubt it is closely allied to Arnott's *Phytocreneæ*, to which Planchon refers it, but from which Brown (in *Pl. Horsf.*) has rejected it. To me, both *Phytocreneæ* and *Pyrenacantha* seem to constitute a very degraded type, allied to *Passifloraceæ* rather than to *Artocarpeæ* or *Olacineæ*; and the Cape genera, *Acharia* and *Ceratiosicyos* will serve to connect them with the more developed genera of *Passifloraceæ*. Their placentation may be regarded as parietal, reduced to its simplest condition.

Fig. 1, *Pyrenacantha scandens*, male plant, the natural size. Fig. 2, a male flower opened; 3, reverse view of a stamen; 4, female flower, of which the ovary is considerably advanced; 5, vertical section of an ovary. The latter figures *enlarged*.

#### XXIV. BERGIA DECUMBENS, Planch.

(*Elatinaceæ*.)

**B. decumbens:** caule suffrutescente diffuso glabro v. apice setuloso opposito ramoso, foliis remotis lanceolatis sessilibus argute serratis acutis, stipulis setaceo-subulatis ciliatis, cymulis axillaribus paucifloris foliis multo brevioribus, pedicellis floribus longioribus, sepalis acuminatis mucronatisque, petalis obovato-oblongis, obtusiusculis.

HAB.—Macallisberg, *Burke & Zeyher*. (Herb. T. C. D.)

DESCR.—*Root* woody, perennial. *Stems* several, decumbent, 1–2 feet long, with short, opposite, ascending branches. Older stems terete with a dark brown bark; younger 4-angled, glabrous, except near the ends, where they are sparsely-hispid. *Leaves* 1–1 $\frac{1}{4}$  inch long, 1–2 lines wide, opposite, about an inch apart, often with axillary fascicles, linear-lanceolate, sessile, acute, sharply serrate. *Stipules* subulate,  $\frac{1}{3}$ – $\frac{1}{4}$  inches long, serrate and ciliate. *Cymules* axillary, subsessile few-flowered; bracts membranous, toothed or ciliate. *Sepals* sharply subulate, ribbed. *Petals* obovate, obtuse or subacute, about as long as the sepals. *Stamens* ten, the petaline shortest, the others with dilated bases. *Ovary* 5-lobed and celled; styles 5. *Fruit* ?



A pretty little plant, with the aspect of some of the smaller species of *Crassula*. It belongs to the group *Lancretia*.

Fig. 1, *Bergia decumbens*, the natural size. Fig. 2, fragment of the stem, with leaf and stipules; 3, a flower; 4, sepal; 5, petal; 6, four of the stamens, alternately long and short. The latter figures *enlarged*.

## XXV. CHÆTACHME NITIDA, Pl. & Harv.

(*Ulmaceæ*.)

GEN. CHAR.—FLORES abortu dielines, monoici; masculi fasciculati, foeminei solitarii. MASC. *Perianthium* 5-partitum laciniis valvatim induplicatis concavis. *Stamina* 5, laciniis opposita; antheræ ovatae, apiculatae. *Ovarii* rudimentum. FÆM. *Perianthium* parvum, 5-dentatum. *Ovarium* ovatum, uniloculare, uniovulatum, ovulo apicali pendulo; stigmata duo, longissima, villosa. *Fructus?* *Pl. An. Se. Nat. III.*, vol. 10, p. 266.

**Ch. nitida**: armata v. inermis, ramulis petiolisque puberulis, foliis ovato-oblongis ellipticisve basi et apice obtusis v. acutiusculis setaceo-mucronatis supra nitidis subtus reticulatis glaberrimis. *Celtis appendiculata*, and *C. subdentata* E. Mey, in *Herb. Drege. Celastrin.*? 1, 107, 11, Zeyher.

HAB.—Forests of the Vanstadens Berg, Uitenhage, Zeyher, Dr. Alexander Prior. Galgebosch, Drege. (Herb. T. C. D.)

DESCR.—A small, divaricately branched tree; either unarmed or with solitary or twin axillary spines. The young twigs, petioles, and inflorescence, minutely downy; the rest of the plant glabrous. *Leaves* spreading, alternate, shortly petioled, ovato-lanceolate, or ovate-oblong, or elliptical, rounded at base, obtuse, subacute or acute at the apex, entire, or remotely 2-3 toothed, glossy above, finely reticulate below, with prominent midrib and veinlets, tipped by a long bristle-point. *Male fl.* in axillary, sub-sessile fascicles; pedicels longer than the flower, with several imbricated, scaly, brown bracts about their bases. Perianth a line long, 5-parted, the segments concave, somewhat cucullate, with strongly inflexed edges, induplicate in æstivation. An oblong abortive ovary, without stigmas. *Stamens* hypogynous, opposite the segments of the perianth; filaments filiform, short; anthers cordate-ovate, erect, mucronate, 2-celled. *Female fl.* solitary, pedunculate; perianth smaller than in the male. *Stamens* none. *Ovary* crowned with two, long, filiform, densely pubescent stigmas; ovule solitary, pendulous from the apex of the cell.

*Chætachme* is well distinguished by natural habit from *Celtis* or *Sponia*, and its floral characters are sufficiently marked. A second species, *Ch. Meyeri*, MS. is the *Celtis aristata* of Drege's plants.

Fig. 1, *Chætachme nitida*, the natural size. Fig. 2, apex of a leaf; 3, male flowers, *in situ*; 4, sepal; 5, a stamen; 6, abortive ovary of male flower; 7, a considerably advanced female flower; 8, the ovary cut vertically. The latter figures *magnified*.



XXVI. DROSERA RAMENTACEA, Burch. (*Droseraceæ.*)

**D. ramentacea:  $\beta$ , glabripes** (*Sond.*); "caule elongato foliis veteribus deflexis obtecto, foliis ad apicem approximatis patentibus junioribus erectis lamina anguste obovata subtus pilosiuscula petiolo semitereti (glabro) duplo brevior, stipulis in unam intra-axillarem setaeo-laciniatam concretis, scapis e basi adscendente erectis folia multo superantibus glabris apice cum pedicellis calycibusque glanduloso-pubescentibus, corolla calyceem duplo superante."—*Sond. in Harr. & Sond. Fl. Cap.*, vol. i., p. 77; *DC. Prod.* 1, p. 318; *Planch, An. Sc. Nat.* 1848, p. 197.

**HAB.**—In boggy places. Summit of Table Mountain, *Ecklon & Zeyher, Dr. Pappe, W. H. Harvey.* January. (Herb. T. C. D.).

**DESCR.**—*Stem* ascending, 6–12 inches long, or more, suffruticose, simple or with one or two branches, for the greater part closely set with deflexed, withered, persistent leaves. *Upper leaves* erect or erectopatent, spatulate, tapering at base into a petiole twice the length of the lamina, glabrous or strigulose externally, the upper surface densely covered with gland-tipped red hairs, and the margin fringed with similar, but longer, hairs. *Stipules* rigidly membranous, tawny, intra-axillary, cleft into 4–3 linear-subulate, very acute laciniae. *Peduncles* 4–8 inches long, subterminal, becoming lateral, glabrous below, glandular upwards, ending in a many-flowered, unilateral raceme; bracts dislocated; pedicels as long as the calyx or shorter, densely glandular. *Sepals* oblong, obtuse, 3–4 lines long, glandular. *Petals* bright-purple, withering, 2–3 times longer than the calyx. *Anthers* with a broad, clavate connective. *Styles* 3, bifurcate near the base, the arms linear, three-toothed at the extremity. *Capsule* longer than the calyx.

Of this handsome species three varieties are described in the "Flora Capensis." Our figure and description are taken from var.  $\beta$ ., the common form on Table Mountain. Burchell, who named the species, gathered his specimens (var.  $\alpha$ .) in the interior, and the third variety (var.  $\gamma$ .) was brought by Burke and Zeyher from Macallisberg.

Fig. 1, *Drosera ramentacea*,  $\beta$ . *glabripes*; the natural size. Fig. 2, apex of a stamen, showing the broad connective and anther-cells; 3, the ovary and styles; 4, a stipule; the latter figures enlarged.

XXVII. CYCLONEMA TRIPHYLLUM, Harv. (*Verbenaceæ.*)

**C. triphyllum:** glaberrimum, suffruticosum, e basi ramosum, ramis erectis angulatis, foliis ternis sessilibus lineari-oblongis acutis integerrimis coriaceis uninerviis aveniis, pedunculis axillaribus unifloris sub calyce bibracteatis, calycis laciniis ovatis acutis.

**HAB.**—Macallisberg, *Burke & Zeyher.* (Herb. T. C. D., comm. Cl. Hook.)

**DESCR.**—*Root* thick and woody. *Stem* short, dividing near the base into several erect sub-simple branches, 8–12 inches high. *Leaves* sessile, in sub-distant whorls of three each, the lower  $\frac{1}{2}$ – $\frac{3}{4}$  inch, the middle



and upper  $1-1\frac{1}{2}$  inches long, from  $1\frac{1}{2}$  to 3 lines wide, linear-oblong, slightly narrowed to the base, sub-acute, acute, or acuminate, thick and opaque, with a faint midrib, and flat or slightly recurved margin. The whole plant is glabrous. *Peduncles* solitary, in the axil of each leaf, and about equally long, slender, with a pair of opposite, lanceolate bracts near the summit. *Calyx* semi 5-fid, with a conical tube, equalling the ovate, acute segments. *Corolla* thrice as long as the calyx, ringent; the stamens and style much exserted. *Drupe* ovoid, twice as long as the persistent, patent calyx.

A distinctly marked species of a curious genus, of which there are at least two or three others found in the Natal Country, one of which (*C. myricoides*, Hochst.) is a shrub, and a native also of Abyssinia.

Fig. 1, *Cyclonema triphyllum*: the *natural* size. Fig. 2, the calyx; 3, the corolla, with stamens and style; 4, apex of a stamen; 5, the ovary; 6, a drupe. The latter figures *enlarged*.

## XXVIII. BOUCHEA CUNEIFOLIA, Schauer. (*Verbenaceæ*.)

**B. cuneifolia**: glabriuscula, foliis carnosulis flabellato-cuneatis basi attenuatâ sessilibus apice rotundato grosse dentato-serrato dentibus acuminulatis, spicis alaribus terminalibusque elongatis gracilibus laxifloris subtilissime pubescentibus, bracteis lanceolatis acutis pedicello manifesto basi bibracteolato brevioribus, calyce brevidentato, fructifero antice et inferius fisso, capsula calycem subæquante obtusâ rugulosâ basi excavatâ! Schauer, in DC. Prod. xi., p. 559. *Buchnera cuneifolia*, Thunb. Fl. Cap., p. 466. *B. cernua*, Houtt. L. Syst. viii., p. 129, t. 58, f. 2. *Phryma dehiscens*, L. Suppl. p. 277. *Chuscanum cuneifolium*, E. Mey. Com. Drege, p. 276. Harr. Gen. S. A. Pl., p. 269. Maund. & Hensl. Bot., 4, t. 196.

HAB.—In the Eastern Districts and Caffreland, extending to Port Natal. Weltevrede, 2500–3000 feet. Between Zauereberg and Klein-Bruintgeshogte, 2000–2500 feet. near Glenfilling, 1000 feet, and at Port Natal, Drege, Krebs, Krauss, &c. Hills near Bushman's River, Uit. Zeyher, Uitenhage, Dr. Alexander Prior. (Herb. T. C. D.)

DESCR.—*Stem* 12–18 inches high, suffruticose, erect, oppositely branched, 4-angled, glabrescent or minutely puberulous; branches erectopatent, virgate. *Leaves* opposite, shorter than the internodes, 3–5 lines long, patent, between cuneate and fan-shaped, rounded and coarsely-toothed at the apex, tapering at base into an imperfect petiole, thick in substance, not conspicuously veiny, and turning black in drying. *Spikes* (spicate-racemes) either terminal or in the forking of two branches, 3–6 inches long, straight, laxly several-flowered: *bract* subulate, minute, shorter than the pedicel, which is minutely bibracteolated at base, and  $1\frac{1}{2}$ –2 lines long. *Calyx* 4–5 lines long, linear-prismatic, with 5 prominent ribs, and 5 alternate furrows, truncate, minutely five-toothed: that of the fruit splitting lengthwise. Tube of the corolla nearly twice as long as the calyx; limb spreading, *capsule*  $2\frac{1}{2}$  lines long.



The genus *Bouchea* has representatives as well in North Africa as in America and the peninsula of India. There are 6 S. African species natives of the Northern and Eastern districts. That now figured is the commonest, and will serve as an illustration of the genus. The others have a very similar habit and flowers, and differ chiefly in foliage.

Fig. 1, *Bouchea cuneifolia*; the *natural size*. Fig. 2, the calyx, laid open; 3, the corolla, laid open, and bearing the stamens; 4, ovary, with style and stigma; 5, the calyx, as seen during *anthesis*; 6, the splitting calyx of the fruit; 7, the same, further advanced; 8, a capsule; 9, the same, cut across; the latter figures variously *enlarged*.

## XXIX. CROTALARIA PLATYSEPALA, Harv. (*Leguminosæ*.)

**C. platysepala**: fruticosa, ramis tenuissime puberulis, stipulis setaceis, foliis trifoliolatis, foliolis petiolo vix longioribus elliptico-oblongis mucronulatis supra glabris subtus appresse pubescentibus, racemis terminalibus elongatis multifloris, calycis pubescentis profunde 5-fidi laciniis obovato-oblongis cuspidato-mucronatis infimo angustiore, vexillo pubescente, alis amplis carinâ longe rostratâ vix brevioribus, ovario pubescente stipitato, 6-8-ovulato; legumine?

HAB.—In sandy soil, between the rivers Tamulakau and Zougha, beyond the Lake Ngami, *Jos. M'Cabe*. (Herb. Hook.)

DESCR.—“A shrub.” I have only seen the tips of flowering branches. *Leaves* trifoliolate, subdistant, spreading, the petiole  $\frac{3}{4}$ –1 inch long, nearly as long as the leaflets, the middle leaflet longest, 2–3 lines wide. Stipules very slender, much shorter than the petioles. Racemes 5–6 inches long, gradually lengthening, 20–30 flowered. Flowers bright-yellow, minutely silky,  $\frac{1}{3}$  inch long. Calyx-segments oblong, abruptly subtruncate, and mucronate, all of equal length, but the lowest one narrower than the others. Legume not seen.

Though this plant scarcely comes within our geographical limits, I figure it as a sort of “first fruits” of the Botany of Lake Ngami, and on account of its remarkable calyx, so different from that of any other S. African species.

Fig. 1, *Crotalaria platysepala*; a flowering twig, the *natural size*. Fig. 2, side view of an unopened flower, just before *anthesis*; 3, the calyx laid open, in side view; 4, one of the *alæ*; 5, ovary and style. The latter figures variously *enlarged*.

## XXX. LORANTHUS NATALITIUS, Meisn. (*Loranthaceæ*.)

**L. natalitius**: glaberrimus, ramis virgatis teretibus, foliis sparsis (nunc per paria approximatis) lanceolato-oblongis v. obovatis obtusis basi cuneatis breve petiolatis tenuissime 3–5 nerviis, floribus ad apices ramulorum umbellatis, pedicellis calyce subtriplo longioribus, calyce turbinato perbrevis sub-repando-dentato, corollæ tubo 2-uncias longo cylindraceo demum hinc fisso, fauce angustata, limbi 6–5-fidi laciniis lineari-lanceolatis acutis vix secedentibus, staminibus faucis insertis erectis,



antheris linearibus basifixis, stylo sulcato apice attenuato, stigmate clavato. *Meisn. in Hook. Lond. Journ.* vol. ii., p. 539.

HAB.—Parasitical on Mimosas, at Port Natal, *Dr. Krauss*, No. 208. *Mr. Sanderson.* (Herb. T. C. D.)

DESCR.—Whole plant glabrous. Branches 2 or more feet long, little divided, dull green, leafy. *Leaves* on the larger branches sub-opposite, scattered on the smaller,  $1\frac{1}{2}$ –2 inches long, 5–8 lines wide, flat, with very slender, indistinct nerves and veins, varying from obovate to lanceolate-linear or lanc. oblong, narrowed at base, and gradually passing into a short petiole. *Flowers* in tufts or umbels, either sessile and lateral on the larger branches, or more commonly at the leafy ends of uncial ramuli. Pedicels 4–5 lines long, calyx  $1-1\frac{1}{2}$  line long, obconic, with a truncate or repand, membranous limb. *Corolla*  $2-2\frac{1}{2}$  inches long,  $1-1\frac{1}{2}$  line in diameter, equal through its greater length, narrowed, but scarcely constricted at the throat, with an erect, cohering, 6-(“5-” *Meisn.*)-parted limb, acute in the bud; the lobes linear lanceolate.

Our figure, taken from a dried specimen, represents the flowers as *pendulous*, and so they are described by Meisner; but Mr. Sanderson assures me that, “when growing, they stand erect, and as they are of a waxy-white and tipped with yellow, they resemble *lighted candles*, by which name they are known to the children at Natal.” Several other species of *Loranthus* are found in S. Africa, all of them in the Eastern and N. Eastern Districts.

Fig. 1, *Loranthus natalitius*; portion of a flowering branch, the *natural* size Fig. 2, the calyx: 3, the throat and limb of the corolla forced open, showing the insertion of the stamens; 4, style and stigma; 5, section of the style. The latter figures variously *magnified*.

### XXXI. RAWSONIA LUCIDA, Harv. & Sond.

(*Bixaceæ*.)

GEN. CHAR.—*Flores* hermaphroditi, v. abortu dielines. *Calyx* 4–5-partitus, sepalis valde inæqualibus concavis imbricatis persistentibus. *Petala* 4–5, decidua, inæqualia, concava (sæpalis conformia), æstivatione imbricata. *Squamæ-petaloidæ* petalis oppositæ, basi glandulâ bilobâ auctæ. *Stamina* plurima, pluriseriata, intimis hypogynis, exterioribus ad basin squamarum fasciculatim adnatis: filamenta libera, subulata, exserta; antheræ sagittatæ, erectæ, biloculares, rima laterali dehiscentes. *Ovarium* toro brevi conoideo insidens, liberum, uniloculare; ovula in placentis 4–5 parietalibus elevatis plurima, anatropa: stylus subnullus; stigma 4–5-partitum, laciniis subulatis. *Fructus* (ex ovario carnosus) baccatus?—*Frutex* glaber, foliis alternis nitidis oblongis acutis penninerviis serratis, spicis axillaribus folio multo brevioribus, floribus subsessilibus confertissimis.

**R. lucida.** *Harv. & Sond. Fl. Cap.* i., p. 67.

HAB.—Colony of Port Natal, *J. Sanderson, Esq.* (Herb. T. C. D., comm. cl. Hook.)

DESCR.—A shrub or small tree, nearly or quite glabrous. *Leaves* alternate, oblong-lanceolate, acute or acuminate, 3–5 inches long,  $1\frac{1}{2}$ –2



inches wide, rigid, glabrous and glossy, penninerved and reticulately veined, sharply serrulate, the serratures  $1\frac{1}{2}$  lines apart, callous. *Stipules* none. *Petioles* 2–3 lines long, channelled. *Spikes* axillary, scarcely twice as long as the petiole, densely few-flowered or subcapitate, on very short peduncles. *Flowers* (judging from the dried specimens) yellowish? *Sepals*, *petals*, and *petaloid scales* all unequal. *Stamens* 40–60, exserted. Perfect and imperfect flowers are found on the same spike.

A distinctly marked genus, dedicated by the authors of the “*Flora Capensis*” to the Hon. Rawson W. Rawson, C. B., Colonial Secretary at the Cape; an ardent promoter and efficient patron of Botany in South Africa. It forms a shrub, with handsome, laurel-like foliage. The structure of the flowers is curious; and the petaloid scales are evidently homologous with the fimbriated rays of *Passifloraceæ*, an Order which the present genus serves to connect still closer with *Bixaceæ*. In *Rawsonia* the inner stamens are hypogynous; the outer perigynous! The habit is not unlike that of *Smeathmannia laevigata*.

Fig. 1, *Rawsonia lucida*, flowering branch the *natural* size. Fig. 2, two unopened flower buds, in situ; 3, 3, smaller and larger petals; 4, 4, petaloid scales of different shapes, from the same flower; 5, stamens attached to the base of a petaloid-scale, which is opposed to a petal; 6, ovary on its stipe, subtended by the persistent calyx; 7, transverse section of the ovary. The latter figures *enlarged*.

## XXXII. SCHOTIA BRACHYPETALA, Sond. (Leguminosæ.)

**S. brachypetala**: foliis abrupte pinnatis, foliolis 4–5-jugis obovatis oblongisve obtusis v. emarginatis mucronulatis supra nitidulis reticulato-venosis, panicula racemosa abbreviata, sepalis basi concretis, petalis minutis linearibus calycis tubo inclusis, filamentis in tubo connatis alterne minoribus, ovario lanceolato-stipitato. *Sond. in Linn.*, vol. xxiii. p. 39.

**HAB.**—Port Natal, *Dr. Gueinzius*. In sheltered valleys, where the soil is dry and rocky, 3000 feet, *Dr. Sutherland*! At 2000 feet, *Mr. Sanderson*! Fl. Sep. (Herb. T. C. D. comm. cl. Hook.)

**DESCR.**—A large shrub or small tree, glabrous, or nearly so. *Leaves* scattered, abruptly pinnate, with 4–5 pair of leaflets; leaflets  $1\frac{1}{2}$ – $2\frac{1}{2}$  in. long,  $1$ – $1\frac{1}{2}$  broad, opposite, subsessile ovate-oblong or elliptical, obtuse, mucronulate or muticous, reticulate with slender veins. *Panicles* axillary, shorter than the leaves, much branched, and many-flowered; bracts small, caducous. *Pedicels* shorter than the calyx. *Calyx* richly-coloured, crimson, with a turbinate tube and 5-parted limb; the segments broadly elliptical, concave, imbricated, very obtuse. *Petals* very minute, hidden in the base of the calyx-tube, linear. *Stamens* 10, exserted, combined at base into a campanulate tube, 5 opposite the petals, shorter than the rest. *Ovary* on a long stipe, lanceolate, corrugated on the ventral margin, glabrous; style filiform, arched; stigma capitate.

A very ornamental shrub, whose brilliantly coloured calyx compensates for its abortive petals. The flowers, in colour, resemble those of



*S. speciosa*; the foliage is much larger and bolder than in *S. latifolia*. It is well worth introducing to English gardens.

Fig. 1, Panicle and part of a leaf of *Schotia brachypetala*; the *natural* size. Fig. 2, circle of stamens, showing 3 of the minute petals in position; 3, the five petals removed; 4, ovary, style, and stigma. The latter figures *enlarged*.

### XXXIII. RANDIA KRAUSSII, Harv.

(*Rubiaceæ*.)

**R. Kraussii**: parcissime spinosa, ramulis virgatis tenuissime puberulis, foliis obovatis obtusis basi cuneatis glabris subtus reticulatis brevissime petiolatis, pedunculis alaribus 2-3-floris ebracteatis, calycis tubo obconico glaberrimo lævi, laciniis obovatis obtusis, corollæ velutinæ tubo brevissimo, limbo amplo patente laciniis late obovatis undulatis, antheris brevibus.

HAB.—Port Natal, *Krauss*, No. 129. *Mr. Sanderson*, No. 200. Sep. (Herb. T. C. D.)

DESCR.—A rigid shrub, with grayish bark, the younger twigs minutely downy, and occasionally producing axillary spines. *Leaves*  $1\frac{1}{2}$ –2 inches long, 1-inch or more in width, patent, obovate, tapering at base into a short petiole, immersedly penninerved above, delicately netted underneath, glabrous. *Stipules* acuminate. *Peduncles* ending the twigs, or spuriously lateral, 2-3-flowered, shorter than the leaves; pedicels ebracteate, filiform, longer than the calyx. *Calyx-tube* quite smooth, obconic; laciniæ obovate, obtuse, equalling the free portion of the tube. *Corolla* with a tube shorter than the calyx, hairy in the throat; limb patent, 6-8 lines in diameter, velvety on both surfaces, the segments suborbicular or broadly obovate, undulate, very obtuse. Anthers oblong, not  $\frac{1}{4}$  as long as the corolla-segments. *Style* swollen in the middle; stigma short, bifid. *Fruit* the size of a small cherry, crowned with the limb of the calyx.

Resembling *R. dumetorum*, but much less spiny, with laxer inflorescence, and a different calyx and corolla, &c.

Fig. 1, branch of *Randia Kraussii*; the *natural* size. Fig. 2, corolla laid open; 3, the calyx; 4, the same, with style and ovary, vertically bisected; 5, cross section of the ovary; 6, a ripe fruit. All except Fig. 6 *enlarged*.

### XXXIV. RANDIA RUDIS, E. Mey.

(*Rubiaceæ*.)

**R. rudis**: inermis v. ramulis glabris virgatis apice spinescentibus, foliis (parvis) fasciculatis obovatis v. ellipticis obtusis basi cuneatis glabris v. subtus subtilissime puberulis brevissime petiolatis, pedunculis unifloris axillaribus calyce brevioribus ebracteatis, calycis tubo obconico glaberrimo lævi, laciniis obovatis obtusis, corollæ glabræ tubo infundibuliformi subexserto, limbo erecto-patente, laciniis oblongis planis, antheris linearibus elongatis. *E. Mey. MS. in Hb. Drege. Heinsia Capensis, Buek, in Hb. Ecklon.*



HAB.—Near Enon, on table-land, 1000-2000 feet; and between Hoffman's Kloof and Driefontein, *Drege!* *Ecklon & Zeyher!* Port Natal, *Dr. Gueinzius, Dr. Krauss*, No. 347. (Herb. T. C. D.)

A rigid shrub, readily known from *A. Kraussii* by its smaller, *fascicled* leaves; short, *one-flowered* peduncles; and smaller, *glabrous, funnel-shaped corolla*, with *narrow* segments and *long* anthers; differences which are sufficiently shown in our figures.

Fig. 1, *Randia rudis*, spray, the *natural* size. Fig. 2, a corolla, bearing the stamens laid open; 3, a calyx; 4, a vertical section of the same, and of the ovary; 5, transverse section of the ovary; 6, the style and clavate stigma.

### XXXV. RANDIA PARVIFOLIA, Harv.

(*Rubiaceæ.*)

**R. parvifolia:** inermis, ramulis virgatis tenuissime puberulis, foliis (parvis) fasciculatis obovato-rotundatis basi cuneatis glabris subsessilibus, pedunculis unifloris axillaribus calyce brevioribus ebracteatis, calycis tubo obconico scabro, laciniis anguste obovatis mucronatis subearinatis costatisque, corollæ glabræ tubo e basi ampliato infundibuliformi, limbo erecto-patente laciniis oblongis planis, antheris linearibus utrinque acutis elongatis.

HAB.—Port Natal, *Mr. Sanderson*. (Herb. T. C. D. comm. cl. Hook.)

Chiefly to be known from *R. rudis* by its scabrous or setulose calyx, with ribbed, subacute, or mucronulate lobes, separated by truncate, ciliolate insterpaces. It is perhaps a mere local variety.

Fig. 1, *Randia parvifolia*, part of a branch and twigs, the *natural* size. Fig. 2, a corolla laid open; 3, calyx; 4, the same, cut through vertically; 5, cross section of the ovary; 6, style and clavate stigma.

### XXXVI. AULAYA COCCINEA, Harv.

(*Scrophularineæ.*)

**A. coccinea:** caule elato, squamis ovatis obtusis, racemo plurifloro, calyce campanulato laciniis triangulari-ovatis tubo brevioribus, corollæ tubo sursum inflato calyce subduplo longiore, limbi laciniis undulatis patentibus.

HAB.—Port Natal, in dense woods, Back-beach and Borea-bush, *Mr. Sanderson*. (Herb. T. C. D. comm. cl. Hook.)

DESCR.—A root-parasite; “whole plant crimson,” viscoso-pubescent, turning black in drying. Stem 12–18 inches high, erect, very straight, simple, ribbed and furrowed, ending in a raceme. Leaf-scales scattered, ovate, obtuse, amplexicaul, concave. Raceme laxly 8–10-flowered; bracts similar to the leaf-scales, about as long as the pedicels. Calyx bell-shaped, half-inch long, with two oblong sublanceolate bracteoles at base, and short, deltoid, or subovate lobes. Corolla, “when fully blown, inclining to white,” the tube inflated upwards, incurved, limb spreading or reflexed, undulate. Stigma clavate.



This species almost unites the genera *Harveya* & *Aulaya*, partaking of the characters of each. Among the species of *Aulaya* it is most nearly allied to *A. pauciflora*, but has a different calyx, shorter pedicels, &c.

Fig. 1, *Aulaya coccinea*, the stem cut in two, the *natural* size. Fig. 2, a flower with its pedicel and bracteoles: 3, the calyx, laid open and viewed from within; 4, ovary, style, and stigma; 5, 5, stamens. The latter figures more or less *enlarged*.

### XXXVII. BOWKERIA TRIPHYLLA, Harv. (Scrophularineæ.)

GEN. CHAR.—*Calyx* 5-partitus, sepalis inæqualibus postremo latiori æstivatione imbricatis. *Corolla* ovoideo-ventricosa, bilabiata, labio superiore galeata erecto bidentato, inferiore inflato-cymbiformi apice trilobo. *Stamina* 4, corollæ basi inserta, didynama, inclusa; antheræ didymæ, biloculares, loculis æqualibus parallelis muticis. *Orarium* 2–3-loculare; ovulis plurimis. *Stylus* filiformis; stigma simplex. *Fructus* ignotus.—*Frutex* glaberrimus, foliis sæpius ternis ovato-lanceolatis denticulatis venulosis, cymis terminalibus trifloris, pedicellis bracteatis, floribus viscosis.

**B. triphylla:** *Harv. in Herb. T.C.D.*

HAB.—On the Eastern Frontier, *Mrs. W. F. Barber*. (Herb. T. C. D.).

DESCR.—A shrub. Branches virgate, glabrous or scaberulous, pale, reddish-buff. *Leaves* in threes, or opposite, nearly sessile, oblongo-lanceolate, rounded at base, subacute, penninerved, slightly corrugated above, nerved and veined, and resinous-dotted underneath, denticulate, nearly glabrous, 3–3½ inches long, 1–1½ inch broad, pale green. *Cymes* subterminal, pedunculate, 3-flowered, bracteate; bracts ovate, acute, scarious, deciduous. *Calyx* 5-parted, sepals acute, strongly imbricate, exuding viscid resin. *Corolla* more than twice as long as the calyx, egg-shaped, bilabiate; the upper lip vaulted, with a flattish, narrow limb, bifid at the summit; lower pouch-like, with a deeply 3-lobed limb. *Genitalia* included. *Stamens* 4, didynamous, attached at the base of the corolla; anthers 2-celled, perfect. *Ovary* sometimes 3-celled; style simple. *Fruit* unknown.

A very remarkable new genus, allied in several respects to *Halleria*, but with a corolla more like that of *Scrophularia*, and a pouched lower lip, reminding of *Calceolaria*. The generic name is designed to commemorate the services rendered to South African Botany by HENRY BOWKER, Esq., and his sister, MRS. F. W. BARBER\* (formerly Miss

\* In one of Mrs. Barber's recent letters, she writes;—"I am one of your *converts*; it is to you that I owe the existence of my 'hobby,' for I never should have known anything of botany had I not, by mere chance, seen a copy of your 'Genera of S. African Plants,' with the introduction to Botany at the beginning of it. This volume I borrowed, and hence commenced some of the happiest days of my life; for in all places, and at all times, in peace and in war, botany has been one of my greatest pleasures; and often, when we have been driven away from our homes, and had them burned by savages, and have had nothing to shelter us but a waggon for months together, then botany has been my



Bowker); who have both contributed largely to our knowledge of the plants of the Eastern frontier, and to whom I am indebted for many interesting specimens, several of which will be figured as this work proceeds.

Fig. 1, *Bowkeria triphylla*; the *natural* size. Fig. 2, the calyx; 3, corolla laid open, to show the stamens; 4, anther; 5, ovary and style; 6 and 7, sections of ovaries: all *enlarged*.

### XXXVIII. THUNBERGIA NATALENSIS, Hook. (*Acanthaceæ*.)

**T. Natalensis:** erecta, glabriuscula, foliis cordato-ovatis acutis breve-petiolatis 3–5 nerviis repando-denticulatis supra glabris subtus adnervos setulosus, pedunculis axillaribus solitariis unifloris folio-brevioribus, bracteis oblongo-ovatis acutis subtrinerviis reticulatis, corollæ tubo flavo bracteas superante, limbo cæruleo, calycis dentibus 5 latis triangularibus obtusis incurvis, antheris basi cornutis, stylo superne dilatato in stigmate concavo triangulari expanso. *Hook. Bot. Mag. tab.* 5082.

HAB.—On the skirts of clumps of bush, 600–2500 feet, extending from near D'Urban to Townhill, Mauritzberg, *Mr. Sanderson*. (Herb. T. C. D.)

DESCR.—*Stem* shrubby at base, 2 or more feet high, furrowed, nearly glabrous. *Leaves* 3–4 inches long, 2–2½ wide, patent or deflexed, on petioles  $\frac{1}{4}$ – $\frac{3}{4}$  inch long, more or less deeply cordate at base, deep green above, paler beneath, subentire or obsoletely repando-dentate: the nerves underneath strigose. *Peduncles* 1½ inches long. *Bracts*  $\frac{3}{4}$  inch long, 4 lines wide, netted with veins. *Calyx* minute, shorter than the disc. *Tube* of the nodding corolla 1½ inch long, trumpet-shaped, tumid underneath, pale yellow; limb sky-blue, 5-lobed, spreading. *Style* expanding at the summit into a hollow, cornucopiæ-shaped stigma.

Our figure, taken from wild specimens, has more distant leaves, longer petioles, and smaller flowers than are represented by Hooker, whose beautiful plate was drawn from plants that flowered in an English hothouse.

Fig. 1, *Thunbergia Natalensis*, the *natural* size. Fig. 2, the involucre of two bracts; 3, a stamen; 4, ovary, in its disc, and the dilated style: *enlarged*.

sovereign remedy to drive away care. And often my two little boys would say:—‘Mamma, shall we ask papa to have the waggon inspanned to go to another place, for there are no more new wild flowers here?’ So you see, anything I can do to assist you, by collecting plants, is only repaying the debt of gratitude I owe you for value received.” I trust I violate no confidence in thus printing part of a lady’s letter, which I do, because it happily illustrates the power of botany to afford interesting amusement and occupation when shut out from society and from ordinary pursuits. How many unemployed hours of a forced or voluntary bush life are tediously spent, which might be pleasantly and *usefully* filled up, if the mind were imbued with Natural History tastes! When the observing faculties have been once roused and directed to natural objects or phenomena, the taste for recording observations and collecting specimens quickly follows, and the late victim of *ennui*, now “all eye, all ear,” finds that time no longer lags, but runs only too quickly away. I am happy to say that I have made more than one S. African “*convert*,” but if my little book had produced no other result than the pleasure it has afforded to my excellent correspondent, and the interesting specimens she has contributed for what she calls “*value received*,” I should consider myself amply repaid.



## XXXIX. CUSCUTA CAPENSIS, Chois.

(Convolvulaceæ.)

**C. Capensis**: caule filiformi, floribus corymboso-racemosis laxis confertisve, racemulis pedunculatis, floribus pedicellatis, pedicello bracteâ subtriplo longiore, corollâ calyceem 2-3-plo superante profunde 5-fida, laciniis acutis rectis, staminibus exsertis, squamis oblongis fimbriatis, stylis divergentibus apice clavato-incrassatis.

HAB.—Kaymansgat, *Drege*. Near George, on *Laurophyllus*, *Dr. Alexander Prior*! (Herb. T. C. D.)

DESCR.—Stem as thick as packthread, reddish-brown, glabrous. *Racemules* few-flowered,  $\frac{3}{4}$ –1 inch long, many springing from a thickened knob, and often forming dense, fastigiate, globose tufts  $1\frac{1}{2}$  inches in diameter. *Pedicels* 3–4 lines long, with a small, subtending, rufous bract. *Calyx*  $\frac{1}{2}$  line; *corolla*  $1\frac{1}{2}$  lines long, campanulate, deeply cut; the segments triangular, erect. *Squamæ* oblong or obovate, sharply lacerate. *Stamens* shorter than the segments of corolla. *Styles* ending in club-shaped, spreading stigmata.

One of the most showy of the South African *Cuscutæ*.

Fig. 1, *Cuscuta Capensis*, parasitical on *Laurophyllus Capensis*, the natural size. Fig. 2, a flower; 3, corolla laid open, seen from within; 4, a squama; 5, ovary and styles; 6, cross-section of ovary: *enlarged*.

## XL. TRICHODESMA ANGUSTIFOLIUM, Harv.

(Boraginæ.)

**T. angustifolium**: caulibus erectis teretibus scabris, foliis lanceolato-linearibus basi et apice acutis subsessilibus albo-tuberculatis scaberrimis, calyce 5-partito demum aucto et inflato sinibus reflexis, laciniis cordatis acuminatis tubum corollæ equantibus, nucibus intus asperulis dorso dentibus pluriseriatis cinctis.

HAB.—Macallisberg, *Burke & Zeyher*! Plains on the Rhinoster River, Free State, 7000–8000 feet, *Mr. Sanderson*! (Herb. T. C. D. Hook.)

DESCR.—12–18 inches high, ascending-erect, many stemmed; branches erect and virgate, occasionally opposite, grayish, rough with hard, white, raised points. *Leaves* 2–3 inches long,  $1\frac{1}{2}$ –2 lines wide, rough with white, bristle-tipped tubercles, darkening in drying. *Peduncles* 1 flowered, opposite the leaves, and shorter than them. *Calyx* in flower,  $\frac{1}{2}$  inch, in fruit an inch or more long; the segments becoming proportionably wider and more cordate as they advance to maturity. *Corolla* not longer than the calyx; its lobes cuspidate. *Nuts* fringed with a broad band of sharp teeth: granulated on the inner face.

Fig. 1, *Trichodesma angustifolium*, the natural size. Fig. 2, one of the calyx segments in anthesis; 3, limb of corolla displayed; 4, front view, and 5, back view of an anther; 6, one of the nuts. The latter figures *enlarged*.

## XLI. DISA ACONITOIDES, Sond.

(Orchidacæ.)

**D. aconitoides**: caule rigido folioso, folio radicali oblongo obtuso, caulinis lato-lanceolatis acutis acuminatisve, spica elongata multiflora, bracteis venosis flores parvulos equantibus, sepalis oblique-ovatis obtusis



sub apice mucronulatis margine exteriori inflexis, galea cucullato-saccata porrecta antice truncata, petalis oblongis basi et apice rotundatis medio hinc constrictis columellæ oblique adnatis subcarnosis, labello oblongo basi angustato sepalis breviori. *Sond. in Linn.*, vol. xix., p. 91.

HAB.—In woods at Olifantshoek, near Bosjesman's River, Uit., *Ecklon & Zeyher*. Albany, *Mrs. F. W. Barber*! Near Grahamstown, *Col. Bolton*! (Herb. T. C. D.)

DESCR.—*Stem* 12–18 inches high, clothed throughout with suberect leaves, longer than the internodes; the root leaf 3–6 inches long, 6–8 lines wide, obtuse; the upper shorter, narrower, and more acuminate. *Flowers* often 20–40 in a lax spike, 4–12 inches long. *Bracts* erecto-patent, ovate, acute, scarious, and veiny,  $\frac{1}{2}$ – $\frac{3}{4}$  inch long. *Ovary* rather shorter than the bract. *Flower* 3 lines long, lateral sepals sub-horizontal, 2 lines long, longer and broader than the labellum, subcarnose. *Galea* bonnet-shaped, prolonged backwards into a long, subacute hood; truncate in front. *Petals* adnate with the column, much constricted in the middle, and enlarged at each end. *Anther* horizontal.

A pretty little species, with numerous, but small flowers; the galea shaped like a *quaker's bonnet*.

Fig. 1, *Disa aconitoides* (rather a small specimen), the *natural* size. Fig. 2, side view of a flower; 3, galea, front view; 4, sepals; 5, petals seen from within, showing the ridge by which they adhere to the column; 6, the labellum; 8, anther and stigma. The latter figures *enlarged*.

## XLII. SCHIZOGLOSSUM ATROPURPUREUM, E. Mey.

(*Asclepiadeæ*.)

**S. atropurpureum**: caule erecto simplicissimo bifariam pubescente, foliis ovato-oblongis mucronulatis puberulis v. glabratissimis internodia equantibus v. vix superantibus marginibus scabris recurvis, superioribus subhastato-oblongis auriculis obtusis, pedunculis brevibus multifloris, floribus atro-purpureis, corollæ lobis obtusissimis, coronæ-stamineæ foliolis emarginatis processu bipartito recto auctis. *E. Mey. Comm. Dreg.* p. 219. *Dne. in DC. Prod.* 8, p. 553.

HAB.—Grassy places on the Witberg, 5000–6000 feet. *Drege*. Caffreland, *Rev. J. Brownlee*! Kreil's Country, *H. Bowker, Esq.* (Herb. T. C. D.)

DESCR.—*Root*? *Stem* erect, 12–15 inches high, quite simple, softly pubescent on opposite sides. *Leaves* opposite, erecto-patent, equalling or scarcely exceeding the internodes,  $1\frac{1}{4}$  inch long,  $\frac{3}{4}$  inch wide, oblong, subtruncate at base, mucronate, with recurved margins, pubescent along the nerves beneath, scabrous above, especially toward the margins. *Umbels* terminal and from the axis of the uppermost, depauperated leaves, shortly pedunculate, 4–6-flowered. Pedicels and calyx pubescent. Corolla rotate, dark purple, glabrous. *Corona* of 5 oval, flattish, emarginate, fleshy scales, bicuspidate on the inner face, below the apex. *Pollen masses* broad-based, ovate, sessile. *Stigma* peltate, 5-crenate.

Decaisne describes the *corona* “foliolis rotundatis appendiculâ externâ prominente sub-horizontali emarginatâ, inter. breviter bifidis rectis,” characters which I cannot find on the specimen here figured, but



which in other respects agrees with his description. I have not seen any authentic specimen of Drege's plant.

Fig. 1, *Schizoglossum atropurpureum*, the *natural* size. Fig. 2, a flower; 3, scales of the *corona-staminea*, different views; 4, stamens and stigma; 5, a pair of pollen masses. The latter figures variously *magnified*.

XLIII. TENARIS RUBELLA, E. Mey. (Asclepiadaceæ.)

**T. rubella:** *E. Mey. Comm. Drege*, p. 198. *Endl. Gen.* No. 3504. *Dne. in DC. Prod.* 8, p. 606.

HAB.—In grassy places. Adow and Glenfilling, 800-1500 feet. *Drege!* Near the Zwartkops River, *Dr. Pappe!* Albany, *Dr. Alexander Prior*; Howison's Poort, *H. Hutton, Esq.* (Herb. T. C. D., &c.)

DESCR.—*Root* fleshy, placentæform, an inch or more in diameter. *Stems* one or several from the same root, 1-2 feet high, very slender, erect, simple, glabrous. *Leaves* opposite, from  $\frac{1}{2}$  inch to 3-4 inches apart, erect, very narrow-linear, 2-3 inches long,  $\frac{1}{2}$ -1 line wide, sessile, slightly narrowed at base, subacute, with reflexed margins. *Flowers* pale purplish red, in a terminal-elongating, pseudo-raceme: pedicels 1-2 flowered, longer or shorter, naked or bracteolate in the middle. *Sepals* lanceolate, glabrous. *Corolla* rotato-stellate, with 5 erect or spreading, linear-spathulate, truncate, mucronulate segments, papillose below the middle. *Corona-staminea* of 5 short, cucullate, sharply emarginate squamæ, alternating with the stamens, and 5 internal subulate teeth opposite the stamens; the squamæ furnished on the inner face, at base, with two minute tooth-like processes. *Pollinia* erect, oval. *Stigma* flat, 5-angled.

A graceful little plant, apparently not uncommon on the Eastern frontier.

Fig. 1, *Tenaris rubella*, the *natural* size, Fig. 2, 3, lobes of the corolla; 3, the corona surrounding the stamens and pistil; 4, part of the corona laid open, and viewed from within; 5, pollen masses. Variously *magnified*.

XLIV. MIMUSOPS OBOVATA, Sond. (Sapotaceæ.)

**M. obovata:** 'ramis ramulisque teretibus glabris, foliis petiolatis obovatis obtusis v. obtuse-acuminatis utrinque glaberrimis coriaceis margine planis v. subrevolutis, axillis 1-2 floris, pedicellis ferrugineis erectis petiolo 4-5-plo longioribus, lobis calycinis lanceolatis acuminatis exterioribus dorso ferrugineo-puberulis intus albidis, interioribus subangustioribus albido-velutinis, corolla longitudine calycis, drupa ovata v. subglobosa apiculata, semine elliptico-oblongo.'—*Sond. in Linn.*, vol. xxiii. p. 75. *Imbricaria obovata*, *Nees*, MSS.

HAB.—Woods near Olifant's Hoek, Uitenhage, *Ecklon & Zeyher*. Port Natal, *Gueinzus*, 583 and 101; *T. Williamson, J. Sanderson*, &c. (Herb. T. C. D.)

DESCR.—A shrub with grayish bark. *Leaves* scattered, variable in size, sometimes 2-3 inches long, sometimes 1-1 $\frac{1}{2}$  inch, on petioles from



$\frac{1}{4}$  to  $\frac{1}{2}$  inch long, spreading, obovate, entire, very obtuse or subacute, flat, glossy above, with immersed veins and prominent midrib. *Pedicels* two or more, from the axils of the upper leaves, or in a spurious raceme on the naked extremity of the branches, rubescent, appressedly silky, as is also the calyx. *Flowers*  $\frac{3}{4}$  inch in diameter, the silky calyx-lobes equalling the corolla. *Corolla* glabrous, its lobes of both series subulate, acute. Sterile stamens densely hispidulous, with a long glabrous cuspidate point. *Anthers* acuminate, longer than the filaments. *Drupe*  $\frac{3}{4}$  inch long, ovate, acuminate, smooth, pale.

Mr. Sanderson sends two varieties, one with leaves twice the size of the other, but not otherwise different. This species is known from *M. caffra* by its thinner, flatter, and perfectly glabrous and glossy leaves, neither tomentulous beneath, nor with revolute borders.

Fig. 1, *Mimusops obovata*, and 2, a drupe; both the *natural* size. Fig. 3, calyx; 4, some lobes of the doubled corolla, laid open; 5, a stamen flanked by two barren stamens (*staminodia*); 6, ovary and style; 7, cross section of ovary. The latter figures variously *enlarged*.

#### XLV. ALBERTA MAGNA, E. Mey.

(*Rubiaceæ*.)

**A. magna:** *E. Mey!* in *Hb. Drege*.—*Endl. Gen.* No. 3327.

**HAB.**—On hills between Omsamcaba and Omsamcubo, 1000-2000 feet. *Drege!* Feb. (Herb. T. C. D.)

**DESCR.**—A tree (?) or large shrub. Young branches glabrous, with reddish-brown bark. *Leaves* oblong-elliptical, acute at base, and shortly petiolate, subobtuse, 4-5 inches long,  $1\frac{1}{2}$ -2 inches wide, glabrous, flat, and smooth above, finely feather-veined beneath, with recurved margins. *Stipules* horny, brown, cup-like, unidentate at each side. *Flowers* in a terminal panicle, with cymoid branches. *Pedicels* tomentulose, bracteate at base. *Calyx* tomentose, unequally 5-lobed, 2 lobes oblong, very obtuse, 3 sharply triangular, shorter. *Corolla* tubular, incurved, 4-5 times longer than the calyx, pubescent, angular, with a very short, erect, 5-parted limb; segments obliquely ovate, twisted, imbricate, acute. *Stamens* included; anthers sessile, linear, apiculate. *Style* filiform; ovary 2-celled; ovules solitary. *Fruit* dry, oblong, 10-ribbed and furrowed, crowned with the persistent calyx-limb, whose two obtuse lobes become dilated, leafy, veiny, and membranous.

Only known to me by the specimens distributed by *Drege*. Its most striking character lies in the unequally parted calyx-limb, two of whose lobes lengthen, as the fruit ripens, into leaf-like expansions; the other lobes remaining unchanged.

Fig. 1, *Alberta magna*, the *natural* size. Fig. 2, calyx and style; 3, limb of the calyx, laid open; 4, apex of the corolla, slit open and flattened, showing the insertion of the anthers; 5, the fruit, with two wing-like foliations; 6, cross section of the ovary. These figures more or less *enlarged*.



## XLVI. VIOLA DECUMBENS, Linn. f.

(Violarieæ.)

**A. decumbens**: 'fruticulosa, caulibus procumbentibus ramosissimis, foliis linearibus angustissimis integris confertis, stipulis subulato-linearibus adnatis, calcare tubuloso recto sepala subæquante.'—*Sond.*—*Linn. f. Suppl.*, p. 397. *Thunb. Fl. Cap.*, p. 186. *V. decumbens*, *a. tenuis*, *Bartl. Linn.* vii. p. 540. *E. & Z.*, No. 120. *V. decumbens*, *β. longifolia*, *E. Mey. Harv. & Sond Fl.*, cap. i. p. 73.

HAB.—Sandy places. Hottentots' Hollandberg, near Palmiet River and Klynrivierberg, *Ecklon & Zeyher! Drege!* (Herb. T. C. D.)

DESCR.—Stems densely tufted, woody at base, chiefly branched below, the larger branches decumbent, the twigs ascending or suberect, 3–6 inches long; dark brown, glabrous. *Leaves*  $\frac{1}{2}$ –1 inch long, 1 line wide, acute, subsessile. *Stipules* long or short, toothed or entire. *Peduncles* subterminal or spuriously lateral, 2–4 inches long, bibracteolate, one flowered. *Sepals* lanceolate-acuminate. *Flowers* blue, yellowish at base, the spur about equalling the calyx.

*V. serotiformis*, DC., retained as a species in Flora Capensis, differs chiefly in its shorter and more saccate spur; but I fear ought only to be regarded as a marked variety.

Fig. 1, *Viola decumbens*, the natural size. Fig. 2, a sepal; 3, the five petals, separated and displayed; 4, a stamen; 5, ovary and style. Variously magnified.

## XLVII. IONIDIUM CAFFRUM, Sond.

(Violarieæ.)

**I. caffrum**: suffruticulosum, caulibus erectis foliisque pubescenti-scabridis, foliis brevissime petiolatis ovatis v. oblongo-ovatis acutis margine recurvo-sub serratis, stipulis subulatis, pedunculis axillaribus unifloris, sepalis lanceolatis apice glabris, labello maximo subquadrato subretuso, calcare brevissimo.—*Sond. Linn.*, vol. xxiii. p. 23. *Fl. Cap.*, i. p. 74.

HAB.—Port Natal, *Gueinzus, Sanderson!* (Herb. T. C. D.)

DESCR.—Suffruticose, erect, or flexuous, branched near the base, minutely pubescent in all parts; pale green. *Leaves* subsessile, ovate, or elliptical acute at each end, obsoletely crenulate,  $\frac{1}{2}$ – $\frac{3}{4}$  inch long, 4–5 lines wide. *Peduncles* from the axils of the upper leaves,  $1\frac{1}{2}$ –2 inches long, bibracteolate near the summit, one flowered. *Flower* cernuous, 6–7 lines long. *Upper* petals shortest, spatulate, nerved and keeled, acute; *lateral* obliquely linear oblong, or subfalcate, very obtuse, curved upwards; labellum on a channelled stipes, quadrate, longitudinally striate, broader than long; spur very short. *Calyx* segments keeled, pubescent at base, glabrous upwards.

Fig. 1, *Ionidium Caffrum*, the natural size. Fig. 2, calyx; 3, one of the upper petals; 4, one of the lateral petals; 5, labellum; 6, the stamens, opened out; 7, ovary and style. More or less enlarged.



XLVIII. *ERICA ALOPECURUS*, Harv.

(*Ericaceæ*.)

**E. (Ephebus) Alopecurus**: ramis virgatis ramulis perbrevibus erectis foliosis densissime obtectis, foliis ternis linearibus obtusis margine revolutis subtus bisuleatis canescenti-tomentosis erectis incurvisve, florum umbellulis ad apices ramorum congestis spicam mentientibus, bracteis remotis, sepalis linearibus tomentosis, corolla ovoideo-urceolata extus puberula, antheris inclusis subulato-aristatis, aristis scabris, ovario villosa.

HAB.—Caffreland, *Rev. J. Brownlee!* 1838. Rovel Hills, Natal, Lat. 27° 31', S. at 7000 feet, *Dr. Sutherland!* (Herb. T. C. D. Hook.)

DESCR. A shrub. *Branches* virgate, 1 foot or more long, closely imbricated throughout their whole length with minute erect leafy ramuli, from  $\frac{1}{4}$ – $\frac{1}{3}$  inch long. *Leaves* in threes, 2–3 lines long, densely tomentose and canescent, narrow linear, very blunt, convex above, furrowed, with a visible midrib beneath, the margin strongly revolute. *Umbels* 3-flowered, on very short, 1–1½ line long branchlets, which are densely crowded at the ends of the branches into a long, cylindrical false spike. *Bracts* removed from the calyx, linear, as are the woolly sepals. *Corolla* pale pink, dry, downy, egg-shaped, with a very small mouth and limb. *Anthers* with long, subulate, rough awns. *Ovary* villous; style glabrous; stigma equal.

Readily known from the other *Ephebi* by its densely spiked inflorescence, imbricated ramuli, and hoary leaves. It appears to have escaped the notice of all African collectors, except the two gentlemen above named: and is interesting as being one of the few Heaths that straggle into the subtropical regions N. E. of the colony.

Fig. 1, *Erica Alopecurus*; a flowering branch, the *natural* size. Fig. 2, a flower, on its pedicel, with the bracts in situ; 3, an anther, with its scabrous awns; 4, ovary, and one stamen; 5, a whorl of leaves; 6, back and front views of a leaf. More or less *magnified*.

XLIX. *CYCNIIUM SANDERSONI*, Harv.

(*Scrophularineæ*.)

**C. Sandersoni**: glabriuscula, caule simplici erecto clato, foliis obovato-oblongis argute inciso-serratis basi cuneatis integris, floribus pedunculatis racemosis, bracteis adnatis linearibus, calycis striati dentibus subulato-acuminatis diametro tubi longioribus, corollæ tubo breviter exserto, limbi amplissimi labio superiore bilobo inferiore tripartito, lobis obovatis integerrimis.

HAB.—On Field's Hill, Natal, at 800 feet. *J. Sanderson!* (Herb. T. C. D.)

DESCR.—*Stem* 2–3 feet high, erect, simple, somewhat angular, glabrous, or nearly so. *Leaves* opposite, 1–1½ inch long,  $\frac{1}{2}$ – $\frac{3}{4}$  inch broad, cuneate and entire at base, sharply incised or coarsely serrate from the middle to the extremity. *Flowers* in a long, terminal, many-flowered raceme, on pedicels longer than the leaves. *Calyx* 1 inch in length.



$1\frac{1}{2}$ –2 lines in diameter, nearly glabrous, or microscopically puberulous, prismatico-cylindrical, equal, its segments much acuminate and twice as long as the diameter of the tube. Tube of the corolla slightly exserted; the ample limb nearly two inches in breadth, its segments veiny, obtuse, or retuse, broadly obovate. *Filaments* hairy; anther obtuse.

A very fine species, nearly allied to *C. racemosum* and *C. Kraussianum*; particularly to the former, but much taller and more robust and more glabrous than either. The whole plant turns black in drying; Mr. Sanderson does not say what its colour was when growing. The flowers, probably, are white.

Fig. 1, *Cygnium Sandersoni*, lower half of a raceme, the *natural* size. Fig. 2, calyx, with its adnate bracts; 3, a stamen. The latter figures *enlarged*.

## L. CYCNIUM TUBATUM, Benth.

(*Scrophularineæ*.)

**C. tubatum**: caule erecto glabro aphylo squamato, squamis ovatis distantibus, floribus racemosis maximis, bracteis liberis, calyce inflato breviter dentato, corollæ hirsutæ tubo longe exserto laciniis latissimis undulatis, filamentis glabris. *Benth. in DC. Prod.*, vol. x. p. 505. *Orobanche tubata*, *E. Mey.*

HAB.—Between Gekau and Basche River, *Drege*. Caledon River, *Burke*. Caffraria, *Rev. J. Brownlee*! Port Natal, *Krauss*! *Sanderson*! (Herb. T. C. D.)

DESCR.—*Stem* 1–2 feet high, simple, robust, angular, glabrous, with several distant irregularly inserted pairs of ovate, glabrous scales,  $\frac{1}{2}$ –1 inch long. *Flowers* in a terminal raceme, on shorter or longer axillary pedicels. *Calyx*  $1\frac{1}{2}$  inch long, nearly  $\frac{1}{2}$  inch in diameter, swollen, subcylindrical, with short ovate or deltoid teeth. *Bracts* on the pedicel, linear. *Corolla* nearly thrice as long as the calyx, hairy with turgid, somewhat viscid hairs, yellowish white or cream-coloured, turning black (as does the whole plant) in drying. *Filaments* glabrous; anthers ovate, acute at base.

The most robust of the genus, with the habit rather of a *Harveya* or *Aulaya*. Being root-parasites, neither this nor the preceding species is cultivatable, at least in the present state of horticultural science.

Fig. 1, *Cygnium tubatum*, and 2, base of stem; the *natural* size. Fig. 3, a cutting from the tube of the corolla, laid open, to show the stamens. *Magnified*.

## LI. TRYPHOSTEMMA SANDERSONI, Harv.

(*Passifloraceæ*.)

GEN. CHAR.—*Flores* hermaphroditi. *Perigonii* *tubus* brevis, conicus; *limbus* 6-partitus laciniis biseriatis, tribus interioribus inter se inaequalibus, duo majoribus herbaceis albo-marginatis, altera lineari membranaceo-petaloidea. *Corona-staminea* perigyna, tubo inserta, duplex, utraque annularis; exterior apice fimbriato-lacera, interior staminigera, integerrima v. obsoletissime crenata. *Stamina* 5, coronæ interiori adnata;



filamenta subulata; antheræ erectæ, sagittatæ, biloculares. *Orarium* sessile, uniloculare; ovula in placentis 3-4 parietalibus perpauca. *Styli* 3-4, filiformes; stigmata capitata. *Fructus* capsularis?—*Herba basi vix suffruticulosa glabra multicaulis; caulibus simpliciusculis angulatis erectis, foliis alternis sessilibus ovatis ciliolato-denticulatis penninerviis renosis, stipulis subulatis liberis patentibus v. deflexis, racemulis 2-3 floris axillaribus, floribus perparvis extus herbaceis purpureo-maculatis.*

**T. Sandersoni:** Harv.

HAB.—Port Natal, *J. Sanderson*. (Herb. T. C. D., comm. Cl. Hook.)

DESCR.—*Root* perennial, woody. *Stems* numerous, 4-6 inches high, erect, quite simple, angular, ribbed and furrowed. *Leaves* alternate, quite sessile, not articulated with the stem, the bulbous base of the midrib coalescing with the node, ovate, acute,  $1-1\frac{1}{4}$  inch long,  $\frac{1}{2}-\frac{3}{4}$  inch broad, subdistantly ciliate with subulate cilia or denticulations; the midrib prominent below, and the veins evident and closely netted. The whole plant is glabrous. *Peduncles* axillary, about as long as the leaves, 2-3 flowered; one or more bracteoles at the base of each pedicel. *Flowers* 2-3 lines in diameter, greenish with purple dots outside, whitish (?) above. *Exterior* segments of the perianth ovate-oblong, equal, two of the *interior* much larger than the third, and broadly ovate, with white margins, while the third is linear, sublanceolate, and petaloid. *Outer corona* elegantly fringed; inner (bearing the stamens) subcrenulate. *Styles* varying from three to four. *Ovules* few.

A passifloraceous genus with flowers no bigger than a *chickweed* is a botanical curiosity. The flowers, though so small, are seen to have, when examined under the microscope, all the essential parts of a *Passiflora*, and our genus chiefly differs by its sessile ovary and free stamens. Its two coronas, the inner bearing the stamens, and the outer merely fringed, appear both to belong to the *staminal* circle, and render it probable that the manifold corona of *Passiflora* has a similar origin. We hope our friends at Natal will keep a watch for other small *Passifloraceæ*, which are wanting as connecting links between the more highly and less highly organized genera of the Order; the present is one such link, others are *Acharia*, *Ceratiosycyos*, and *Modecca*, and it is highly probable that the region which produces these may furnish others as interesting. Burchell's "*Paschanthus*" remains a botanical puzzle.

Fig. 1, *Tryphostemma Sandersoni*, the natural size. Fig. 2, a flower; 3, reverse side of perianth; 4, inner corona-staminea, bearing the stamens; 5, outer corona; 6 & 7 pistils, from different flowers; 8, cross section of an ovary; the latter figures variously magnified.

## LII. TRIUMFETTA TRICHOCARPA, Sond.

(*Tiliaceæ*.)

**T. trichocarpa:** fruticosa, pilis stellatis vestita, ramis teretibus scabris, foliis alternis brevissime petiolatis oblongis v. ovato-oblongis ob-



tusiusculis basi acutis trinerviis dentatis utrinque velutino-pubescentibus, pedunculis axillaribus solitariis sub-trifloris in apice ramuli subcymoso-aggregatis, sepalis linearibus apice fornicatis dorso cornutis, petalis oblongis basi angustatis, ovario biloculari, capsulâ setosâ setis longissimis rectis patentim pilosis.—*Sond!* in *Linn.*, vol. xxiii. p. 19. *Harv. & Sond., Fl. Cap.*, i. p. 228.

HAB.—Macallisberg, and near the Vaal River, *Burke & Zeyher!* Zooloo Country, *Miss Owen!* (Herb. T. C. D.)

DESCR.—A rigid shrub, rough in all parts with harsh, but rather thinly set, stellate hairs. *Branches* erect, virgate, with rusty coloured bark. *Leaves* on minute petioles,  $1-1\frac{1}{2}$  inch long,  $\frac{1}{2}-\frac{3}{4}$  inch wide, pale green, unequally and somewhat doubly serrate. *Peduncles* crowded toward the end of the branches, the subtending leaf often depauperated. *Petals* yellow. *Capsule* covered with very long, plumose, straight bristles.

Much more shrubby than any other S. African species, with sessile leaves; and readily known when in fruit by the long, straight bristles of the capsule.

Fig. 1, A branch of *Triumfetta trichocarpa*, the natural size. Fig. 2, a sepal; 3, a petal; 4, pistil, with one of the stamens in situ; the latter figures variously magnified.

#### LIII. BRACHYCORYTHIS OVATA, Lindl.

(*Orchideæ.*)

**B. ovata:** glabra, foliis ovatis acuminatis, sepalis ovato-oblongis subacutis, petalis oblique ovatis acutis, labelli sacculo oblongo naviculari sulcato, limbo porrecto obtuse tridentato.—*Lindl. Gen. & Sp. Orchid.*, p. 363.

HAB.—Between the Omsamwubo and Omsamcabe, *Drege.* Field's Hill, near Port Natal, *J. Sanderson!* On the grassy flats beyond Butterworth, Brit. Caffraria, *Mrs. F. W. Barber!* (Herb. T. C. D.)

DESCR.—*Root?* *Stem* 1–2 feet high, densely leafy throughout. *Leaves* broadly ovate, clasping the stem, ovato-concave, imbricating,  $1\frac{1}{2}-2$  inches long,  $1-1\frac{1}{2}$  inch wide at base, tapering to a sharp point. *Flowers* very numerous, in a dense, leafy spike, “having the scent of an English violet” (*Mrs. Barber*). Back sepal ovate, subacute, equal-sided, 3-nerved; lateral ovate-oblong, oblique, much longer. *Petals* produced at base in front and rounded, obliquely ovate, acute, erect. *Labellum* with a horizontal, ovate-oblong, boat-like hollow base, and an erecto-patent 3-toothed limb. All parts of the plant are quite glabrous.

This little known plant exists in very few herbaria, though neither of my obliging correspondents, who have recently sent it, mention it as uncommon. The colour of the flower is not stated. The whole plant turns blackish in drying.



LIV. BRACHYCORYTHIS PUBESCENS, Harv. (Orchideæ.)

**B. pubescens**: densissime pubescens, foliis ovatis acuminatis, sepalis elliptico-oblongis obtusissimis, petalis oblongo-linearibus obtusis, labelli sacculo brevissimo, limbo deflexo argute tridentato, dentibus lateralibus incurvis.

HAB.—Plentiful near D'Urban, Port Natal, *J. Sanderson*. (Herb. T. C. D.)

DESCR.—*Root* and lower part of stem not seen. *Stem* (probably) 2 feet high, densely imbricated throughout with leaves, velutino-pubescent, as are also the leaves, bracts, ovaries, and sepals. *Leaves* closely set on all sides, ovate, acuminate, flat, subcordate, and amplexicaul at base, the upper ones  $1\frac{1}{2}$ –2 inches long, and  $1$ – $1\frac{1}{2}$  wide. *Flowers* very many in a long leafy spike, “crimson and white,” 3–4 lines long. *Sepals* and *petals* erect; the *labellum* pendulous. *Lateral* sepals elliptic-oblong, very obtuse, obliquely ovate at base, 3-nerved; *back* sepal elliptical, much shorter. *Petals* equalling the back sepal; or a little longer, broadly linear or sub-oblong, slightly curved, unequal at base. Cup of the *labellum* very short and small; the limb broadly obovate and sharply 3-toothed, the lateral teeth turning inwards. *Ovary* densely pubescent.

A very distinct species, recently sent by Mr. Sanderson, and noticed by no other collector, though said to be common in the neighbourhood of D'Urban, where probably many more of these curious plants are still “wasting their sweetness on the desert air.” I hope this notice may attract the attention of residents at Natal to their neglected ground-*Orchideæ*.

Fig. 1, *Brachycorythis pubescens*, upper portion of a flowering stem, the *natural* size. Fig. 2, a flower; 3, the same, after the sepals have been removed; 4, sepals; 5, petals; all *enlarged*.

LV. HABENARIA ARENARIA, Lindl. (Orchideæ.)

**H. arenaria**: foliis binis radicalibus oblongo-ovatis acutis, scapo vaginato, racemo laxo multifloro, bracteis membranaceis acuminatis pedicellis ovariorum longioribus, labelli tripartiti laciniis anguste linearibus acutis lateralibus recurvis brevioribus, calcare pendulo clavato-filiformi ovario longiore.—*Lindl. Gen. & Sp. Orchid.*, p. 317. *Burch. Cat. Geogr.*, No. 5654.

HAB.—Cape, *Burchell*. Howison's Poort, *H. Hutton*! *C. Zeyher*! Albany, *Mrs. F. W. Barber*! (Herb. T. C. D.)

DESCR.—*Bulb*?—*Leaves* two, 4–6 inches long, 2–3 inches wide, ovate-oblong, acute, thin and membranous when dry, probably softly-succulent when fresh, many-nerved. *Stem*  $1$ – $1\frac{1}{2}$  feet high, slender, laxly sheathed; the lower sheath often leafy, the rest laxly clasping, acuminate. *Raceme* 3–8 inches long, laxly several flowered. *Bracts* lanceolate or ovato-lanceolate, about  $1\frac{1}{2}$  times longer than the stalks of the ovary. *Flowers*  $2$ – $2\frac{1}{2}$  lines long, the *spur*  $\frac{3}{4}$  inch long, thickened



to the extremity. *Petals* falcato-lanceolate, acute. *Labellum* 3-parted, the segments spreading widely, linear, acute. Posterior sepal broadly ovate, concave, erect; lateral deflexed, ovato-lanceolate. *Ovary* on a long pedicel.

This has the smallest flowers and the largest leaves of the Cape species, most of which belong to the section *Bonatea*.

Fig. 1, *Habenaria arenaria*, the natural size. Fig. 2, a flower; 3, back sepal; 4, lateral sepal; 5, petals; all enlarged.

## LVI. STENOGLOTTIS FIMBRIATA, Lindl. (Orchideæ.)

**S. fimbriata:** *Lindl. in Hook. Comp. Bot. Mag.*, ii. p. 210.

HAB.—Between the Omsamwubo and Omsamcabe, *Drege*. Near Port Natal, *Dr. Gueinzus*, *J. Sanderson*, *R. Hallack*. Howison's Poort, Albany, *H. Hutton*. (Herb. T. C. D.)

DESCR.—*Roots* tuberous, fasciculated, fusiform. *Leaves* all radical, numerous, oblongo-lanceolate, acute or occasionally sub-obtuse, spreading, or sub-horizontal. *Stem* 6–15 inches high, with small and distant ovato-lanceolate, clasping squamiform sheaths. *Spike* laxly several or many-flowered, 3–6 inches long. *Bracts* erect, shorter than the ovary, lanceolate, acute. *Flowers* 2–3 lines long, delicately membranous in texture when dry, reversed, the labellum directed upwards. *Back-sepal* concave, ovate, obtuse; *lateral* ovato-falcate, sub-acute; all 3-nerved, and minutely denticulate. *Petals* ovate, acute, very delicate, minutely fimbriato-lacerated at the edges. *Labellum* twice as long as the other petals, concave at base, oblong, deeply and sharply 3-forked.

A graceful little orchid, remarkable among the Cape *Ophrydeæ* for its many fascicled tubers and numerous radical leaves. Dr. Lindley considers it related to *Arnottia*.

Fig. 1, *Stenoglottis fimbriata*; the natural size. Fig. 2, side view of a flower; 3, sepals; 4, petals; 5, labellum; all magnified.

## LVII. RHAMPHICARPA TUBULOSA, Benth. (Scrophularineæ.)

**R. tubulosa:** foliis lanceolato-linearibus integris, corollæ limbo quam tubus incurvus parum brevior, capsulæ truncatæ valde obliquæ rostro calyce brevior.—*Benth. Comp. Bot. Mag.*, i. p. 368. *Benth. in DC. Prod.*, x. p. 504. *Gerardia tubulosa*, *Linn. f. Suppl.*, p. 279. *Thunb. Fl. Cap.*, p. 487.

HAB.—In wet places. Kraka Kamma, *Thunberg*. Eastern Districts, from Uitenhage to Port Natal, *Drege*! *Zeyher*! *Krauss*! *J. Sanderson*! *Miss Owen*! (Herb. T. C. D.)

DESCR.—Whole plant, except the tube of the corolla, glabrous, turning black in drying. *Stem*, 1–2 feet high, simple or slightly



branched, quadrangular. *Leaves* opposite, distant, linear-lanceolate,  $1\frac{1}{2}$ – $2\frac{1}{2}$  inches long, 1–2 lines wide, longer or shorter than the internodes, thickish in substance, with immersed veins. *Peduncles* 1-flowered, from the axils of the upper leaves, ebracteate, shorter than the leaf, but longer than the calyx. *Calyx*-lobes lanceolate, keeled. *Corolla* white, turning purplish-black or bluish in drying, its limb about equalling the slender, pubescent tube. *Stamens* included; filaments villous; anthers 1-celled. *Ovary* straight, but *capsule* very oblique, 2-celled, with many ovules on large, fungous, axile placentæ.

A handsome plant, with the aspect of a *Phlox*. Four other species of the genus are known: one of them East Indian, two from Abyssinia, and one from Madagascar. They are probably root-parasites, like so many of the nigrescent *Scrophularineæ*.

Fig. 1, *Rhamphicarpa tubulosa*; the *natural* size. Fig. 2, calyx; 3, stamens, as attached to the tube of the corolla, a fragment of which, laid open, is also shown; 4, pistil; 5, capsule; 6, section of the same; all the latter figures *enlarged*.

LVIII. NYCTERINIA NATALENSIS, Bernh. (*Scrophularineæ*.)

**N. Natalensis:** caule simplici ascendenti incurvo piloso, foliis lanceolato-linearibus obtusiusculis integerrimis glabris coriaceis, floralibus late lanceolatis calyces subæquantibus, spica elongata densa multiflora. *Bernh. in Flora*, 1844, p. 334. *Benth. in DC. Prod.*, x. p. 348.

HAB.—Port Natal, *Krauss*. Claremont Flats, plentiful, *Sanderson*. (Herb. T. C. D.)

DESCR.—Many stemmed; *stems* 12–14 inches long, incurved, sub-erect, simple or nearly so, roughly pilose with reflexed, succulent hairs. *Leaves* scattered, longer than the internodes, 1–2 inches long, 2–3 lines wide, coriaceous and glabrous, obtuse or subacute, quite entire, the margin minutely revolute. *Bracts* or floral leaves lanceolate, the lowermost often without axillary flowers, and longer than the upper, which are slightly shorter than the calyces they enclose. Tube of the *corolla* 2 inches long, velvety pubescent; limb “brilliant white on the upper surface, rich crimson or maroon on the lower” (*Sanderson*). The whole plant turns black in drying.

I figure this beautiful plant, as it has received a name, but fear that it is merely a variety of *N. maritima*, which differs by its erect stems and longer bracts. In Mr. Sanderson’s specimens many of the lower bracts are barren, closely inbricating each other, and longer and more acute than the fertile ones.

Fig. 1, *Nycterinia Natalensis*; the *natural* size. Fig. 2, a section of the corolla, laid open and showing the stamens; 3, one of the fertile stamens; 4, calyx and its bract; 5, calyx-limb, laid open; the latter figures *magnified*.

LIX. CYCLOPTYCHIS VIRGATA, E. Mey. (*Cruciferaæ*.)

**C. virgata:** suffruticosa, erecta, glaberrima, glauca, ramis virgatis teretibus, foliis coriaceis lanceolatis mucronulatis, racemis elongatis,



siliculis glabris.—*E. Mey.!* in *Herb. Drege. Sond. in Fl. Cap.*, vol. i. p. 34. *Cleome virgata*, *Thunb. Fl. Cap.*, p. 498.

HAB.—Interior districts, *Thunberg*. Piquetberg, at Groene Valley, Oct.; Pikenierkloof, Jan; Giftberg, Nov., 1000–2500 f., *Drege!* Tulbagh, *Ecklon and Zeyher*. (Herb. T. C. D.)

DESCR.—A slender, straggling, erect suffrutex, 2 feet high or more, glabrous in every part, and somewhat glaucous. *Branches* very erect, 12–18 inches long, quite simple, laxly leafy in the lower half, ending upwards in a long, many-flowered raceme. *Pedicels* 2–3 lines long. *Flowers* purple or rosy, petals clawed, 7–8 lines long, narrow-obovate, erect. *Sepals* elliptical, concave, 3-nerved. *Stamens* 6, as long as the calyx; anthers linear-sagittate, erect. *Silicule* ovate, indehiscent, 2-celled, with a solitary seed in each cell; the valves convex, with strongly raised ridges radiating from the keeled centre: style beak-like, subulate, as long as the valves.

A graceful plant, with the general habit of *Brachycarpœa varians*, from which it is readily known by its strongly ridged, not didymous silicule, and the different structure of its seeds.

Fig. 1, *Cycloptychis virgata*, and branch; *natural* size. Fig. 2, a flower; 3, a petal; 4, stamens and pistil in situ; 5, pistil, the stamens removed; 6, ripe silicule; the latter figures more or less *magnified*.

## LX. CADABA NATALENSIS, Sond.

(*Capparidæ*.)

**C. Natalensis**: inermis, apetala, foliis petiolatis oblongis obovato-oblongisve obtusis v. emarginatis mucronulatis coriaceis glabris, floribus axillaribus longe pedunculatis, sepalis exterioribus navicularibus, interioribus planis late ovatis ciliolatis acutis, staminibus 4–6, nectario lageniformi collo incurvo hinc fisso ore denticulato, bacca cylindræea elongata. *Sond. in Linn.*, vol. xxiii. p. 8. *Fl. Cap.*, i. p. 59.

HAB.—Port Natal, *Gueinzus*. In thickets, by river banks, Doorns Spruit, 1800 feet, rare, *J. Sanderson!* (Herb. T. C. D.)

DESCR.—A straggling, unarmed, divaricately-branched, glabrous shrub, with pale ash-coloured bark; the older branches rather naked and knotty; twigs virgate. *Petioles* 2–4 lines long, with woolly pubescence along the upper edge; *leaves* 1–1½ inch long, 4–6 lines wide, narrow-obovate or oblong, acute at base, obtuse but mucronulate at the extremity, midribbed, but without conspicuous veins, coriaceous, opaque, drying a pale, yellowish-green. *Peduncles* axillary, equalling the leaves, or longer, filiform, spreading or deflexed. *Sepals* minutely puberulous externally; the outer pair very concave or boat-shaped; the inner flat, thin in substance, veiny, ciliolate, broadly ovate. *Staminal-tube* an inch long, bearing 4, 5, or 6 stamens; anthers deciduous. *Stipe* of the ovary gradually lengthening after anthesis, 1–1½ inch long. *Nectary* shaped like a chemist's "retort," the neck strongly bent back, slit along the upper edges, and toothed at the extremity. Unripe fruit only seen.



This seems to be a rare shrub. Mr. Sanderson only observed a single individual, by the banks of a water-course.

Fig. 1, *Cadaba Natalensis*; a flowering branch; *natural* size. Fig. 2, outer sepal; 3, inner sepal; 4, nectary, stamens, and pistil; all *enlarged*.

LXI.—LXII. ERYTHRINA SANDERSONI, Harv. (*Leguminosæ*.)

**E. Sandersoni**: arborea, velutino-lanuginosa, ramis . . . . ., foliis longe petiolatis pinnatim trifoliolatis, foliolis latissime ovatis obtusis utrinque dense tomentoso-villosis penninerviis, petiolis pedunculisque lanuginosis, spica ovoideo multiflora, calycibus lanuginosis hinc fissis laciniis filiformibus!, corolla glabra.

HAB.—Near Sterk Spruit, Port Natal, 1000–1500 feet, August, September. *Mr. Sanderson!* (Herb. T. C. D.)

DESCR.—“A small, scrubby tree, 10–12 feet high, with dull grayish green foliage” (*Sanderson*). *Branches* and *twigs* unknown to me. *Petioles* 5–8 inches long, to the lowest pair of leaflets; the terminal leaflet 2–3 inches distant from the lower. *Leaflets* 5–8 inches broad, 4–6 inches long, subtruncate at base, obtusely ovate, penninerved. *Peduncles* 6–8 inches long,  $\frac{1}{3}$  inch in diameter, bearing a very dense, oval-oblong spike of dull crimson flowers. *Calyces* split along the lower side, the 5 filiform segments nearly as long as the tube, erect. *Vexillum* about twice as long as the calyx. Petioles, leaflets, peduncle, and calyces are all densely clothed with whitish woolly hairs, which in the older parts are partly obliterated. *Legume* not seen.

A very noble species, remarkable for its woolly covering, and for a calyx so unlike that of other *Erythrinæ* as almost to warrant us in founding a genus for it. The name *Cheirochlana*, alluding to the hand-like calyx segments, would apply, and may, at least, be given to it as a *sub-genus* of *Erythrina*. It is possible that the legume may afford generic characters. Mr. Sanderson informs me that the leaves are sometimes very much larger than the one figured. The specimens received are not in good condition, and the leaves obviously but half grown. I am not aware whether the branches are armed or unarmed. *Seeds* would be very welcome to English horticulturists.

Fig. 1, Leaf (young) and spike of *Erythrina Sandersoni*. Fig. 2, a flower; 3, the calyx, laid open, seen from within; 4, an ovary; these figures slightly *enlarged*.

LXIII. LOTONONIS MONOPHYLLA, Harv. (*Leguminosæ*.)

**L. (Oxydium) monophylla**: suffruticosa, gracilis, ascendens, appresse puberula et argentea, stipulis nullis, foliis *unifoliolatis!*, foliolo ovato v. oblongo mucronulato supra glabro subtus tenuissime argenteo, pedunculis elongatis, umbella 4–5-flora, bracteis minutis, calyce appresse argenteo-puberulo laciniis superioribus triangularibus acutis in



fima-subulata, petalis breve unguiculatis, vexillo subrotundo sericeo, carina glabra rostrata acuta, legumine ?

HAB.—Stony places, on the Vanstaadensberg Mountains, Uitenhage, *C. Zeyher* ! No. 2313. (Herb. T. C. D.)

DESCR.—*Root* woody, deeply descending. *Stems* 2–4 inches long, very slender, ascending or diffuse, slightly branched, thinly covered with minute, close-pressed, silky, and silvery hairs. *Leaves* an inch apart, the petiole  $\frac{1}{2}$ –1 inch long, filiform; leaflet  $\frac{3}{4}$  inch long, 4–5 lines wide, varying from ovate to elliptical, mucronulate, very minutely silvery on the lower surface only. *Stipules* none. *Peduncles* terminal or opposite a leaf, 3–4 inches long, erect. *Flowers* yellow, resembling those of *Lotus corniculatus*. *Calyx* campanulate, the 4 upper segments triangular-acuminate, the lowest subulate. *Vexillum* silky: *carina* and *alæ* glabrous. *Ovary* lanceolate, silky, tapering at base into an imperfect stipe; style long, straight, glabrous. The 5 longer stamens with roundish, abortive anthers.

A graceful little species, and the only one known to me with unifoliate leaves. In the several specimens I have examined, both in Herb. Sond. and T. C. D., this character is uniform.

Fig. 1, *Lotononis monophylla*; the natural size. Fig. 2, the calyx; 3, the same laid open; 4, carina; 5, one of the alæ; 6, stamens; 7, pistil; enlarged.

#### LXIV. CRABBEA ANGUSTIFOLIA, Nees.

(*Acanthaceæ*.)

**C. angustifolia**: ‘molliter hirsuta, bracteis setoso-ciliatis immarginatis, corolla tubuloso-infundibuliformi, foliis lanceolato-linearibus obtusis!’ —*Nees in DC. Prod* xi. p.163.

HAB.—Macallisberg, *Burke*. (Herb. T. C. D., comm. cl. Hook.)

DESCR.—Many stemmed. *Stems* decumbent or ascending, subsimple, 6–12 inches long, hirsute. *Leaves* opposite, the pairs about an inch apart, secund in the lower or procumbent portion, 3–4 inches long, about 3 lines wide in the middle, linear-lanceolate, tapering to each end, entire, covered with softish, patent hairs, the midrib and sub-parallel lateral veins prominent on the lower surface. *Peduncles* very short, 2–3 lines long. *Heads* ovate, surrounded by several imbricated, broadly lanceolate, ribbed, and penninerved bracts, which are roughly setose on the ribs and margin, and bordered with long bristle-shaped cilia, but not margined. *Corolla* narrow, funnel-shaped, the tube not much exceeding the calyx, the limb short, subequal, with undulate, ovate, ribbed, and veiny lobes. *Anthers* scabrous. *Orules* about 3 in each cell.

Besides the present, there are three other species now included in *Crabbea*, all having a similar aspect and inhabiting the same districts.

Fig. 1, *Crabbea angustifolia*; the natural size. Fig. 2, the calyx; 3, the corolla, laid open, showing the insertion of the stamens; 4, an anther; 5, a pistil, the ovary cut vertically; 6, another vertical cutting of the ovary, taken at right angles to the last; 7, the stigma; all variously magnified.



LXV. CISSUS LANIGERA, Harv.

(*Ampelideæ*.)

**C. lanigera** : dense villosa-pubescens, caulibus ligneis compresso-angulatis striatis, foliis longe petiolatis quinatis, foliolis subsessilibus obovatis v. obovato-lanceolatis acutis argute bi-serratis subtus crebre penninerviis pallidis densiuscule tomentosisque, cymis pedunculatis diffusis, stylo filiformi, bacca tomentosa.—*Harv. in Harv. & Sond. Fl. Cap.*, i. p. 252. *Zey.* No. 155.

HAB —Macallisberg, *Burke & Zeyher* ! Natal district, *R. W. Plant* ! (Herb. T. C. D.)

DESCR.—A strong-growing woody climber, clothed in all parts with whitish, somewhat woolly, short hairs, which are particularly copious on the young parts. *Leaves* 4–6 inches apart, petioles 2–4 inches long; leaflets mostly 5, broadly obovate, tapering at base into an imperfect euneate petiolule, coarsely, sharply, and irregularly serrate or doubly serrate, the pinnate veins parallel, near together and obvious on the lower surface. *Cymes* diffusely much branched, the divisions curved backwards, many-flowered. *Petals* 4, cucullate, externally hairy. *Berry* (unripe) densely woolly.

A wild vine, seemingly not uncommon in the Natal district, where it is known to the Zooloos by the name “*Tambesi*,” and considered a specific for toothache. The root (probably a strong astringent) is used, rubbed to the gums. It is more densely woolly than the other Cape species of the “*Digitate*” group of *Cissus*.

Fig. 1, *Cissus lanigera* ; natural size. Fig. 2, a flower ; 3, a petal and its opposing stamen ; 4, calyx and pistil ; the stamens and petals being removed ; magnified.

LXVI. RAPHIONACME PURPUREA, Harv.

(*Asclepiadeæ*.)

GEN. CHAR.—*Calyx* 5-partitus. *Corolla* rotata, 5-fida, laciniis æstivatione imbricatis; fauce squamis 5 planis staminibus oppositis cuspidatis v. aristatis instructâ. *Filamenta* distincta, fauce inserta, breviter exserta; antheræ imberbes, appendiculo triangulari minuto terminatæ, basi margini stigmatis cohærentes. *Pollinia* 5, granulosa (granulis quadrilocularibus), apicibus dilatatis glandularum stigmatis applicita. *Stigma* ovatum, 5-gonum, v. fere 5-alatum. *Folliculi* ?—*Plantæ humiles, radicibus tuberosis placentæformibus, foliis oppositis rigidis scabris v. glaberrimis, cymis paucifloris alaribus, floribus parvis albo-viridis v. purpureis*.—*Harv. in Lond. Jour. Bot.* 1842, p. 23. *Aporyanthera*, *Hochst. Flora*, 1843, p. 78.

**R. purpurea** : glabra, ramis dichotomo-corymbosis, foliis subsessilibus lanceolatis penninerviis utrinque acutis, junioribus minutissime ciliolatis, calycis laciniis ovato-lanceolatis acutis, corolla læte-purpurea, squamis coronæ spathulatis apice deltoideo-cuspidatis erosis.

HAB.—From Field's Hill to Maritzberg, 500–2200 ft., Sep., *J. Sanderson* (Herb. T. C. D.)

DESCR.—*Root* a large, depressed, placentiform tuber, 2–4 inches



(perhaps more) in diameter. *Stems* 2–4 inches high, somewhat fleshy, shrinking in drying (the figure, taken from a dried specimen, is probably *too slender*), several times forked, the ends of the branches standing nearly on a level. *Leaves* opposite (young, half-grown leaves only yet seen), 1–2 inches long,  $\frac{1}{2}$  inch wide, subsessile, flat, smooth, and thickish in substance, penninerved, the veins obvious, but not prominent. *Peduncles* in the forks of the branches, or opposite a solitary branch, the leaves generally abortive and reduced to mere scales on the flowering branches. *Cymes* generally 3-flowered, the pedicels and peduncles each  $\frac{1}{2}$  inch long. *Calyx* small, its lobes ovato-lanceolate or lanceolate, acute. *Corolla* “a rich purple,” 5–7 lines in diameter, rotate; the segments elliptic-oblong, obtuse. *Corona* exserted, the scales cuneato-spathulate, with a much acuminate, triangular point. Anthers not half as long as the squamæ, ovate, with a minute triangular dilatation at the extremity. Pollen grains quaternate, aggregated on the flattened, spoon-shaped extremity of the stigmatic-gland. *Follicles* unknown.

This appears to be quite distinct from any of the several species of *Raphionacme*, and is the most glabrous of any with which we are yet acquainted. The genus ranks among the small group of *Periploceæ*, which connects the true *Asclepiadæ* with the *Apocynæ*. Here the stamens stand apart on the tube of the corolla, as in *Apocynæ*, but the stigmatic glands of the pollen are a modified form of those of ordinary *Asclepiadæ*.

Fig. 1 *Raphionacme purpurea*; the *natural* size; Fig. 2, calyx; 3, corolla laid open; 4, anther; 5, pollen mass and gland; 6, quaternate grains of pollen; 7, stigma; all *magnified*.

## LXVII. GOMPHOCARPUS TRUNCATUS, Dne. (*Asclepiadæ*.)

**G. truncatus:** caule erecto simplice gracili glabriusculo, foliis (*sæpe ternis*) linearibus elongatis expansis margine revolutis supra scabriusculis subtus glaucescentibus, umbellis in rachi terminali aphylla flexuosa alternis (nonnunquam etiam axillaribus) pedunculatis subquinquefloris, coronæ-stamineæ foliolis truncatis, angulis ovatis acutis medio brevissime cristatis. *Dne. in DC. Prod.* vol. viii., p. 560. *Lagarinthus truncatus*, *E. Mey. Comm. Drege*, p. 206.

**HAB.**—In grassy places between the Key and the Omtata, 1000–2000 feet. *Drege*. Near Butterworth, in Kreili's country, in damp places. *Mrs. F. W. Barber*. (Herb. T. C. D.)

**DESCR.**—*Root?* *Stem* 12–18 inches high, quite simple, pale green, slender, with distant internodes. *Leaves* opposite or in threes, 3–4 inches long, 1–1 $\frac{1}{2}$  line wide, tapering to each end, flat, with recurved margins, strigulose on the upper, glaucous on the lower surface. *Umbels* 5–6-flowered, on peduncles shorter than the leaves, set along a bent, leafless, terminal rachis; the lowest pair often from the axils of the uppermost pairs of leaves. *Calyx* pubescent. *Corolla* 5–6 lines in diameter, purplish, especially on the outside, the segments spreading or



inflexed. *Staminal-crown* of 5 conduplicate truncate leaflets; the sides ear-like, ovate oblong, acute, with a small, spur-like crest or keel, under the apex, at each side. *Pollinia* attenuate upwards.

A pretty species, with moderately large purple or "raspberry and cream" flowers. I refer it to Decaisne's species, of which I have seen no authentic specimen, with some hesitation, but, if not the same, it must be a very closely allied species.

Fig. 1, *Gomphocarpus truncatus*; the natural size. Fig. 2, back view of the calyx; 3, side view of a leaflet of the staminal-crown; 4, front view of the same, with the sides pulled apart; 5, vertical view of the stigma, invested by the stamens, whose membranous points over-lap; 6, an anther; 7, a pair of pollen-masses, affixed to their caudicula and gland; —the latter figures variously magnified.

LXVIII. DICOMA ZEYHERI, Sond.

(*Compositæ*.)

**D. Zeyheri**: "caule suffruticoso araneoso erecto simplici vel apice subramoso, foliis oblongo-lanceolatis oblongisve acutis basi angustatis supra glaberrimis reticulato-nervosis subtus albolanatis, capitulis solitariis paucisve ovatis, involucri squamis multiseriis nitidissimis acuminatis exterioribus patentibus reflexisve, achenio villosissimo." — *Sond. in Linn.*, vol. xxiii. p. 71.

HAB.—Macallisberg, *Burke & Zeyher*, No. 1031. (Herb. T. C. D. comm. cl. Hook.)

DESCR.—Perennial. *Stem* slightly lignescent at base, then herbaceous, 12–18 inches high, simple or divided near the base into several simple erect albo-tomentose branches. *Leaves* 3–4 inches long, 1–1½ inch wide, sessile, but narrowed toward the base, oblong or lanceolate, or obovate, acute, with slightly revolute, obscurely denticulate margins, glabrous and veiny on the upper, densely coated with white woolliness on the under surface; the upper cauline leaves gradually smaller, the very uppermost linear-lanceolate, 1 inch long. *Heads* terminating the stem or lateral branches, solitary, scarcely pedunculate; *bracts* lustrous white ("everlasting"), dry, imbricated in many rows, ovate-lanceolate, acuminate, and pungent, glabrous, the outer deflexed or recurved, the rest erecto-patent. *Pappus* very white, plumose. *Anthems* linear, with very long, recurvo-hispid tails. *Stigma* clavate, minutely emarginate. *Achenia* densely hirsuto-villous.

A very handsome species, allied to *D. speciosa*, but with much broader leaves, much more copious and whiter indumentum and the outer scales of the involucre not scattered, bract-like, along the peduncle.

Fig. 1, *Dicoma Zeyheri*; the natural size. Fig. 2, a flower, surrounded by its pappus; 3, the corolla, removed; 4, apex of one of the bristles of the pappus; 5, a stamen; 6, apex of the style; more or less magnified.

LXIX. CORYMBIUM CONGESTUM, E. Mey.

(*Compositæ*.)

**C. congestum**: "caule hispido, foliis elliptico-lanceolatis utrinque attenuatis submembranaceis utrinque glanduloso-hirtellis, corymbo



congesto, involucris squamis hirtellis."—*DC. Prod.*, vol. v. p. 89. *E. Mey. ! in Pl. Drege.*

HAB.—Drackensteenbergh 2–300 feet, *Drege ! Worcester, Ecklon & Zeyher !* (Herb. T. C. D.)

DESCR.—*Collum* barbed with long, silky hairs. *Stem* 2 feet high, rigid, rufescent, slightly flexuous, rough with minute, gland-tipped, slightly viscous hairs. *Radical leaves* 5–6 inches long, 1–1½ inch wide in the middle, elliptico-lanceolate, acute or subacuminate, tapering at base into an imperfect petiole, 5–7 ribbed, glandularly-hispidulous on both sides; *cauline leaves* clasping at base, shorter, narrower, and more acuminate than the radical, the uppermost small, and reduced to lanceolate and subulate scales. *Inflorescence* racemoso-paniculate, each branch ending in a dense, few-flowered, little-divided corymb. *Involucres* ¾ inch long, or rather more, glandularly-pubescent, and viscidulous. *Corolla* purple; its lobes lanceolate.

This species is readily known from all others of its genus by the broader, more membranous and less rigid leaves, resembling in form and venation those of *Plantago lanceolata*. The genus *Corymbium*, exclusively a South African type, is remarkable for its straight-veined leaves, simulating those of an Endogen; some of the species having leaves like those of grasses, others like those of some Iriseous plant. It is also an instance of a Composite plant, whose "*capitulum*" contains but a single flower; but several other South African genera share in this peculiarity. It belongs to the sub-order *Vernoniaceæ*.

Fig. 1, *Corymbium congestum*; the natural size. Fig. 2, a *capitulum*, containing a solitary flower; the two involucral leaves pulled apart; 3, scales of the pappus; 4, stigmata; magnified.

## LXX. EUMORPHIA DREGEANA, DC.

(*Compositæ*.)

**E. Dregeana:** *DC. Prod.*, vol. vi. p. 3.

HAB.—Sneeuwbergen, between Compasberg and Rhinosterberg, 5000–6000 feet, *Drege ! Africa's Hoogte, Burke & Zeyher !* (Herb. T. C. D.)

DESCR.—A small shrub, 1–2 feet high, much branched and ramuliferous, glabrous. *Leaves* minute, 1–1½ line long, opposite, decussating, imbricating, linear, obtuse, fleshy, with strongly revolute margins, covering the whole lower surface, and leaving a mere medial furrow. *Heads* terminating the branches and ramuli, solitary or corymbulose, 2 lines in diameter, the rays spreading half an inch. *Involucre* imbricating in several rows, the scales obtuse, round-backed, appressed, the outer ones gland-tipped. *Receptacle* convex, covered with leafy scales, which subtend and partly enwrap each flower. *Ray flowers* in a single row, female, white. *Disc-fl.* longer than the involucre, perfect, obtusely 5-lobed. *Anthers* not tailed. *Style* of the disc-fl. with divergent, truncate branches; of the ray with filiform, recurved, subacute branches. *Pappus* none. *Achenia* glabrous, 4–5 angled.

With a generic character very closely agreeing with that of *Anthemis*, this elegant little shrub has a very distinct general habit, entitling



it to rank as a separate genus. The foliage is peculiarly neat; the flowers are not remarkable for beauty.

Fig. 1, *Eumorphia Dregeana*; the *natural* size. Fig. 2, a capitulum; 3, a disk-flower, with its subtending bract; 4, a ray-flower; *enlarged*.

## LXXI. RAFNIA CRASSIFOLIA, Harv.

(*Leguminosæ*.)

**R. crassifolia**: ramis angulatis, foliis anguste-oblongis vel cuneato-oblongis obtusis mucronulatis crassis aveneis, pedunculis axillaribus unifloris basi bibracteatis post anthesin deflexis, calycis laciniis liberis tubo 2-3-plo longioribus carinam equantibus, quatuor superioribus lanceolato-acuminatis, legumine oblongo-cultrato basi cuneato. *R. axillaris*, E. & Z.! 1192 (*non* Thunb.) *R. lancea*, ex parte, Benth.! in Hook. Lond. Journ., vol. ii., p. 467. *R. angulata*, litt. f., Thunb.! in Herb.

HAB.—Hottentot's Holland, near Palmiet River and Klynrivier'sberge, Ecklon & Zeyher! Klein Howhoek, Zeyher! 2281. Pappe, No. 60. Simon's Bay, Charles Wright! 564. Capetown Hills, Dr. Hooker! Bowie! Dr. Alexander Prior! (Herb. T. C. D., &c.)

DESCR.—*Stems* several from the same root, 1-2 feet high, suberect, curved, subsimple, sharply angled, or somewhat winged along the angles, green or rufescent. *Leaves* alternate, about an inch apart,  $1\frac{1}{2}$ -2 inches long,  $\frac{1}{4}$ - $\frac{1}{2}$  inch wide, oblong or cuneate-oblong, remarkably obtuse, with a very minute mucro, thick and somewhat fleshy in substance, with immersed veins, glaucous, cartilage-margined, the margin often reddened. *Peduncles* axillary, shorter than the leaves, jointed a little above the base, and there furnished with a pair of linear-oblong or linear bracts, which are sometimes small, sometimes as long as the upper half of the peduncle. After flowering, the peduncles are deflexed at the joint. *Calyx* tube conical, much shorter than the limb, whose 4 upper segments are broadly lanceolate-acuminate, and more or less falcate, at all times standing apart from each other; the sinuses are very acute. *Corolla* scarcely longer than the calyx. *Legume* minutely stipitate, cultrate, cuneate at base,  $1-1\frac{1}{2}$  inch long, pendulous.

Not an uncommon species in the western districts, though hitherto confounded, as the above synonyms show, with other very distinct species. From *R. axillaris* and *R. angulata* it differs in inflorescence, and foliage; and from *R. lancea*, figured in our next plate, especially in the calyx, but also in foliage, bracts, &c. It appears to me to be a well-marked species: at least as distinct as any other in the genus *Rafnia*.

Fig. 1, *Rafnia crassifolia*, and 2, a legume; both of the *natural* size. Fig. 3, a flower; 4, calyx, with partly enlarged ovary; both *magnified*.

## LXXII. RAFNIA LANCEA, DC.

(*Leguminosæ*.)

**R. lancea**: caule angulato, foliis lineari-oblongis vel oblongo-lanceolatis acutis v. mucronatis coriaceis venulosis, pedunculis axillaribus uni-



floris apice setaceo-bracteolatis, calycis laciniis superioribus conniventibus per paria connatis acuminatis carinâ multo brevioribus, infimâ setaceâ, legumine cultrato basi attenuato *E. & Z. ! Enum. 1194. Benth. ! in Hook. Lond. Journ. vol. ii., p. 467, ex parte. Oedmannia lancea, Thunb. ! Fl. Cap., p. 561.*

HAB.—South Africa, *Thunberg ! Dr. Thom !* Sandy places, on the flats near Tigerberg, Cape District ; also at Klynrivier, Caledon, *Ecklon & Zeyher ! Stellenbosch* and the Paarl, *Drege !* Between Vogelsvalley and Tulbagh's Kloof, *Dr. Pappe !* (Herb. T. C. D.)

DESCR.—A small shrub, 6–12 inches high, erect or ascending, simple or slightly branched ; the branches angular, but not very sharp-edged. *Leaves* densely crowded, about a quarter of an inch apart, 1–2 inches long,  $\frac{1}{4}$ – $\frac{1}{2}$  inch wide, varying in shape from linear-oblong to lanceolate, acute or subobtuse, and mucronate, the uppermost sometimes acuminate, all coriaceous, but not fleshy, with more or less obvious venation, turning black in drying. Cartilaginous margin very narrow. Peduncles from the axils of the uppermost leaves, crowded toward the ends of the branches, or sub-corymbose, one-flowered, 1–1½ inch long, jointed near the summit, and there furnished with a pair of minute, bristle-shaped bracts. *Calyx* tube conical, its upper segments connate in opposite pairs, for half their length or more ; each pair of segments forming a deeply bifid, triangular lobe of a trifid calyx. *Corolla* nearly twice as long as the calyx, bright yellow, turning blackish-brown in drying. Legumê deflexed, narrow, tapering much at base into a short stipe.

This is readily known from the preceding and all other species of *Rafnia* by the arrangement and connation of the calyx segments. The divisions between the two posterior segments and between the lateral and anterior are deeply cut, but those between the posterior and lateral are twice as shallow ; consequently, these appear as if connate for half their length. On this character Thunberg proposed his “*Oedmannia* ;” but as there is nothing else to separate *Oedmannia* from *Rafnia*, with which the habit perfectly agrees, De Candolle has very properly united its only species—the present plant—to the latter genus.

Fig. 1, *Rafnia lancea* ; the *natural* size, Fig. 2, a flower ; 3, the calyx, and stamens ; 4, vexillum ; 5, an ala ; 6, carina ; all *magnified*.

### XXIII. HIBISCUS PUSILLUS, Thunb.

(*Malvaceæ.*)

**H. pusillus :** humilis, hispidus v. glabriusculus, caulibus decumbentibus subsimplicibus, foliis breve-petiolatis *polymorphis* (ovatis v. tri-cuspidatis trilobisve vel tripartitis) argute et grosse serratis rigidis subglabris, nervis venulisque elevatis reticulatis, stipulis setaceo-subulatis patentibus, pedunculis axillaribus folia superantibus sub-flore articulatis, involucello 10-phyllo foliolis subulatis calyce duplo brevioribus, calycis laciniis lanceolato-acuminatis stellato-pubescentibus, capsulis glabris, seminibus lanatis. *Thunb. Fl. Cap., p. 550. Harr. & Sond. Fl. Cap. vol. i., p. 175. H. gossypinus, E. & Z. ! 307, non Thunb. H. serratus, E. Mey. ! in Hb. Drege.*



HAB.—Near the Zwartkop and Soudag Rivers, *E. klon & Zeyher* ! Graaf Reynet and Somerset, *Mrs. F. W. Barber* ! Macallisberg, *Burke* ! near Grahamstown, *T. Williamson* ! (Herb. T. C. D.)

DESCR.—*Root* thick and woody. *Stems* several, 3–6–12 inches long, spreading on the ground, either glabrous, or rough with a few scattered bristles. *Leaves* on petioles  $\frac{1}{4}$  to  $\frac{1}{2}$  inch or inch in length, extremely variable in shape on the same plant, the lowest leaves being usually broader and less divided, the upper narrower, and often deeply cut. The *unlobed* leaves are either ovate, elliptical, oblong, or linear, always cuncate at base, and sharply and coarsely serrate for two-thirds of their length. The *lobed* leaves vary much in breadth and in the proportion between the lobes ; the medial lobe is always longest ; the lateral are sometimes very short or obsolete. The venation is strongly marked, nerves and veins very prominent on the lower surface. Sometimes both surfaces of the leaf are glabrous ; sometimes one or both is sprinkled with stellate hairs, and these are sometimes associated with simple bristles. *Stipules* subulate, somewhat rigid. *Peduncles* 2–3 inches long, jointed under the flower, glabrous or hispid. *Involucre* 10-leaved, not half as long as the lanceolate calyx segments. *Corolla* 2–3 inches in diameter, bright crimson or purplish, rarely varying to orange and yellow. *Capsule* oblong, glabrous ; the seeds densely covered with long woolly hairs.

A very handsome field-flower, native of several parts of the Eastern districts, opening its brilliant blossoms throughout the summer. I have not seen any authentic specimen of Thunberg's plant, but the description in Fl. Cap. agrees better with this than with any other known to me. *H. gossypinus* is a very different plant. The specimens with yellow flowers are from Macallisberg, where also the red-flowered variety occurs.

Fig. 1, *Hibiscus pusillus* ; the natural size. Fig. 2, a capsule, surrounded by the persistent calyx ; 3, a seed ; both enlarged.

#### LXXIV. COMBRETUM HOLOSERICEUM, Sond. (*Combretaceæ*.)

**C. holosericeum** : arborescens, inerme, ramulis teretibus foliis spicisque holosericeis, foliis oppositis brevissime petiolatis late ovatis subcordatis acutis integerrimis utrinque helvolo-velutinis, spicis axillaribus solitariis foliis brevioribus, floribus octandris, calyce cyathiformi, petalis obtuse emarginatis lanato-ciliatis, fructibus subsessilibus ellipticis 4-alatis, alis semiorbiculatis puberulis nitentibus corpore lanceolato lepidoto vix latioribus. *Sond. ! in Linn.*, vol. xxiii., p. 44.

HAB.—Macallisberg, *Burke & Zeyher* ! (Herb. T. C. D., comm. cl. Hook.)

DESCR.—A small tree, with glabrate branches and opposite, densely velvety twigs. *Leaves* on very short petioles,  $2\frac{1}{2}$ – $3\frac{1}{2}$  inches long,  $2$ – $2\frac{1}{2}$  inches broad, roundish ovate or elliptical, subcordate at base, with a short, acute point, densely and softly velvety on both sides, with fawn-coloured or yellowish-brown hairs, the margin minutely recurved, the lower surface densely netted with prominent veinlets between the paral-



lel primary veins. *Spikes* axillary, shortly pedunculate,  $1\frac{1}{2}$ –2 inches long, slender, many flowered. *Flowers* minute. *Calyx* with a cup-shaped limb, with 4 shallow, broad teeth, separated by rounded interspaces. *Petals* very minute, broader than long, somewhat obovate, fringed with long woolly hairs. *Stamens* 8, much exserted. *Ovary* crowned with dense bristles. Fruit (according to *Sonder*) “subsessile, 4, rarely 3-winged, 9–10 lines long, obtuse at each end (when young, somewhat taper-pointed); the wings scarious, subentire at margin, yellowish, cross-striate, very thinly pubescent, 2 lines wide in the middle, not wider than the body of the fruit.”

A handsome species, remarkable for its broad, fulvous, softly velvety leaves, larger and broader than in any other South African species yet discovered. I have not seen the fruit.

Fig. 1, *Combretum holosericeum*; the natural size. Fig. 2, a flower; 3, the calyx-limb, laid open, showing the insertion of the stamens, and petals; 4, a petal; 5, apex of ovary; all magnified.

## LXXV. COMBRETUM ZEYHERI, Sond.

(*Combretaceæ*.)

**C. Zeyheri**: arboreum, inerme, ramulis foliis junioribus petiolisque velutinis, foliis oblongo-ellipticis obtusis subemarginatis glaberrimis reticulato-venosis supra lucidis, spicis axillaribus solitariis velutinis, floribus bracteatis, calyce campanulato, petalis unguiculatis glabris, staminibus 8 rarius 12–16, fructibus maximis petiolatis 4-alatis elliptico-subrotundis utrinque emarginatis glabris, alis semiorbiculatis nitentibus corpore oblongo-lanceolato duplo latioribus. *Sond.!* in *Linn.*, vol. xxiii., p. 46.

HAB.—Macallisberg, *Burke & Zeyher!* (Herb. T. C. D., comm. cl. Hook.)

DESCR.—A tree, 20–30 feet high. Twigs, petioles, the young leaves and the inflorescence softly pubescent; the full-grown leaves quite glabrous. *Leaves* opposite, on petioles 2–3 lines long, elliptical or ovato-elliptical, very obtuse,  $2$ – $2\frac{1}{2}$  inches long,  $1\frac{1}{2}$ –2 inches wide, somewhat shining on the upper surface, prominently nerved and veined, and closely netted with veinlets on the lower surface, dull green, slightly rust-coloured. *Spikes* axillary, shorter than the leaf or equalling it, densely velvety, cylindrical, many flowered. *Flowers* minute. *Calyx*-tube constricted above the ovary, then widening, and campanulate, shortly 4-toothed, with wide interspaces. *Petals* minute, on short claws, ovato-trapeziform, glabrous. *Fruits* very large,  $1\frac{1}{2}$ –2 inches long, and nearly as wide, glossy and glabrous, emarginate at each end; the wings  $\frac{3}{4}$ –1 inch wide, finely striate, twice as wide as the lanceolate body of the fruit, papery in substance, and easily splitting in the direction of the striæ.

Fig. 1, *Combretum Zeyheri*, a branch in fruit; 2, a young leaf and spike of flowers; both the natural size. Fig. 3, a flower; 4, 2 of the calyx teeth, with an interposed petal; magnified.



LXXVI. *TRICHILIA DREGEANA*, E. Mey. (*Meliaceæ*.)

**T. Dregeana** : var.  $\beta$ . **oblonga** : foliis impari-pinnatis, foliolis 2-5-jugis elliptico-oblongis obtusis utrinque glabris v. subtus ad nervos strigosis, paniculis axillaribus brevibus simpliciusculis, petalis utrinque tomentosis calyce obtuse 5-fido 4-plo longioribus, tubo-stamineo profunde 10-fido, segmentis intus hirsutissimis bidentatis apice antheriferis, antheris mucronulatis, capsulis? *Harv. & Sond. Fl. Cap.*, i. p. 246.

HAB.—In woods at Port Natal, *Mr. Sanderson* ! (Herb. T. C. D.)

DESCR.—A tree. Young twigs, petioles and peduncles thinly pubescent. Common petiole 3-5 inches long, bearing two or more pairs of leaflets beyond its middle, angular and furrowed above; leaflets  $2\frac{1}{2}$ - $3\frac{1}{2}$  inches long, 1-2 inches broad, elliptical or oblong, obtuse at both ends, or slightly tapering at base, penninerved, with slightly revolute margins, glabrous or nearly so. *Panicles* scarcely branched, almost racemose, few flowered, not half as long as the common petiole. *Flowers* subsessile. *Calyx* short, with 5 rounded lobes. *Petals* 5 lines long, oblong, thinly silky-tomentose on both sides, spreading, deciduous, thick and coriaceous. *Staminal*-tube crown-like, divided to the middle into 10 bifid segments, very hairy within, and antheriferous at the summit. *Ovary* 3-celled. *Style* columnar, rather longer than the stamens, puberulous. *Stigma* capitate. *Capsule* not seen.

This variety differs from the normal state of the species in having *obtuse* instead of *acute* or *sub-acuminate* leaflets. They are also usually much broader and more oval. In other respects the agreement is complete.

Fig. 1, *Trichilia Dregeana*  $\beta$ . *oblonga*; a flowering branch; the *natural* size. Fig. 2, a flower; 3, an unopened flower-bud; 4, a petal; 5, the staminal tube laid open; 6, one of the segments of the staminal tube, carrying its anther at the bifid apex; 7, ovary and style; 8, section of the ovary; all *magnified*.

LXXVII. *EMPLEURIDIUM JUNIPERINUM*, Sond. and Harv. (*Rutaceæ*?)

GEN. CHAR.—*Flores* dioici. *Calyx* 4-partitus, persistens, sepalis acutis æstivatione imbricatis. *Petala* 4, decidua, sessilia, ovato-subrotunda, sub disci 4-crenati carnosì margine inserta. *Masc.* : *stamina* 4, petalis alterna, cum iisdem inserta; filamenta subulata, petalis breviora; antheræ didymæ apice simplices. *Ovarii* rudimentum styliforme. *Fem.* : *Ovarium*? *Capsula* oblonga, follicularis, margine ventrali dehiscens, stylo apiculata. *Semen* ascendenti-erectum. *Sond. in Fl. Cap.*, vol. i. p. 442.

**E. juniperinum**, *Sond. & Harv. Fl. Cap.*, i. p. 442.

HAB.—Near Caledon, *Ecklon* ! (Herb. Sond.)

DESCR.—*Root* simple, filiform. *Stems* several from the crown, 6-8 inches high, simple or branched from near the base, erect or suberect.



*Branches* virgate, rugulose. *Leaves* scattered, patent, acicular-triangular, 6–12 lines long,  $1\frac{1}{3}$  line in diameter, scabrous at the margin and keel, acute, the younger hair-pointed, glabrous, dull dark green, without pellucid dots. *Flowers* axillary, very minute, solitary; *pedicels*  $1-1\frac{1}{2}$  line long, bibracteate at base, ending in the conical base of the calyx. *Sepals* 4, ovate, cuspidate, somewhat keeled. *Petals* scarcely longer than the sepals, concave, very obtuse, broadly ovate or subrotund. *Stamens* (in the male flowers) opposite the sepals, and nearly as long. *Ovary* not seen. *Capsule* brown,  $2\frac{1}{2}$  lines long, opening laterally; seed not examined. Whole plant glabrous.

With many of the technical characters of *Empleurum* this little plant has the habit of a *Muraltia*. It wants the glandular dots so general in Rutaceæ; and the disc in the male flower is so large and broad as to resemble that of a *Celastrinea*, to which Order, but for the uni-carpellary ovary, it might be referred.

Fig. 1, *Empleuridium juniperinum*; the *natural* size. Fig. 2, a male flower on its pedicel; 3, front view of a male flower; 4, a stamen; *magnified*. Fig. 5, two capsules, in situ, the *natural* size. Fig. 6, capsule on its pedicel; 7, front view of an open capsule, showing the seed; *magnified*.

## LXXVIII. SYLITRA BIFLORA, E. Mey.

(*Leguminosæ*.)

**S. biflora:** *E. Mey., Comm. Drege*, p. 114.

HAB.—Bitter water, near Gamke River, 2300 f., *Drege*! (Herb. Benth.)

DESCR.—A virgate perennial. *Stems* 12–16 inches high; terete, slender, thinly canescent, slightly branched; branches virgate, flexuous. *Leaves* nearly an inch apart; petiole 1–2 lines long, articulated at the summit, with a terminal, linear-lanceolate leaflet,  $1\frac{1}{2}$ –2 inches long, 2 lines wide, acute at each end, glabrous above, minutely canescent beneath, obliquely striate. *Stipules* setaceo-subulate, equalling the petiole. *Flowers* in axillary pairs, on pedicels not a line long. *Calyx*  $1\frac{1}{2}$  lines long, silky, with 5 sharp teeth, the two upper approaching in a pair, the lowest rather longest. *Corolla* not twice as long as the calyx. *Ovary* 4-ovuled. *Legume* oblong,  $1\frac{1}{2}$  inch long,  $\frac{1}{2}$  inch wide, strongly compressed, thickened at the sutures, pubescent, membranous, and pale.

A remarkable plant, in many respects similar to *Lessertia*, but having very different foliage and inflorescence.

Fig. 1, *Sylitra biflora*; the *natural* size. Fig. 2, a flower; 3, the vexillum; 4, the alæ and carina; 5, the calyx laid open; 6, the staminal tube; 7, the ovary; all *magnified*.

## LXXIX. RHYNCHOSIA PINNATA, Harv.

(*Leguminosæ*.)

**R. pinnata:** prostrata, puberula; foliis pinnatis bi-trijugis, foliolis brevissime petiolatis rhomboideo-ovatis v. elliptico-oblongis acutis pu-



berulis impresso-punctatis; pedunculis elongatis apicem versus 5-6-floris; calycibus glandulosis. *Polytropia pinnata*, E. & Z.! i. 1628.

HAB.—Sandy places, near Saldanha Bay, Aug., Sept., *Ecklon and Zeyher!* (Herb. Sond.)

DESCR.—*Stems* 1-2 feet long, procumbent or prostrate, angular, minutely downy. *Leaves* distant, alternate, on longish, frequently bent petioles, simply pinnate. *Leaflets* in 2-3 pairs,  $\frac{3}{4}$  inch long, 4-5 lines wide, rhombic-ovate, acute, netted with veins and impresso-punctate. *Stipules* ovate, reflexed. *Peduncles* longer than the leaves, shortly racemose near the summit, bearing 5-6, nodding, yellow, or tawny flowers. *Flowers* 3 lines long. *Calyx* and pedicels glandularly pubescent. *Ovary* 2 ovuled.

The genus *Polytropia* of Presl has been united by Mr. Bentham with *Rhynchosia*, from which it merely differs in having pinnate, or bi-tripinnate leaves. The species here figured appears to be very rare. It exists in few herbaria, and has not been found, except by Ecklon and Zeyher in the locality above given. Except in the foliage, it closely agrees with *R. ferulæfolia*.

Fig. 1, *Rhynchosia pinnata*; the natural size. Fig. 2, the calyx; 3, the same laid open; 4, the vexillum; 5, the alæ and carina; 6, the ovary and style; 7, the ovary laid open; all more or less magnified.

LXXX. PSORALEA ZEYHERI, Harv.

(*Leguminosæ.*)

**P. Zeyheri:** Suffruticosa, simpliciuscula; caulibus ascendentibus subteretibus hispidulis; foliis breve petiolatis trifoliolatis, foliolis inferioribus latè obovatis, superioribus lineari-oblongis linearibusve omnibus mucronulatis impunctatis margine scaberulis, junioribus villosis, adultis glabrescentibus; stipulis lanceolato-subulatis; pedunculis terminalibus axillaribusque foliis multò longioribus hirsutis; spicis oblongis multifloris bracteatis; calycibus dense albo-hirsutis pallidis purpureo-venosis laciniis 4 superioribus lineari-lanceolatis infima oblongo-lanceolata multò longiore reticulato-venosa.

HAB.—Mountains over 24-Rivers, *Zeyher!* No. 2375. (Herb. Hook., Sond.)

DESCR.—*Stems* 6-8 inches high, densely leafy. *Leaflets* of the lower leaves 4-5 lines long, 3-4 lines wide, of the upper 1-1 $\frac{1}{2}$  inch long, 1-2 lines wide. *Peduncles* 4-6 inches long. *Calyx* very hairy, the lowest segment much longer than the bracts, and nearly equalling the corolla.

Allied to *P. rotundifolia* and *P. Thomii*, but with different foliage and calyx.

Fig. 1, *Psoralea Zeyheri*; the natural size. Fig. 2, a flower; 3, the calyx, laid open; both magnified.

LXXXI. PLEIOSPORA CAJANIFOLIA, Harv.

(*Leguminosæ.*)

GEN. CHAR.—*Calyx* ovoideus, 5-fidus, laciniis 4 superioribus per paria basi connatis, infimâ angustiore. *Vexillum* rectum, concavum;



*alæ* patentés; *carina* recta. *Stamina* monadelphá, tubo superne fisso. *Ovarium* sessile, acutum, pluriovulatum; *stylus* brevis, rectus; *stigma* simplex. *Legumen*?

**P. cajanifolia**, Harv.—*Psoralea cajanifolia*, Benth. in *Herb. MSS.*

HAB.—Magaliesberg, and near the Crocodile River. *Burke and Zeyher!* No. 448. *Dr. Pappe*, No. 161. (Herb. T. C. D., *Hook, Sond.*)

DESCR.—A tall, branching, densely leafy shrub. *Branches* and twigs silky with fulvous hairs. *Petioles*  $\frac{3}{4}$  inch long. *Leaves* 3-foliate; leaflets 2–2½ inches long,  $\frac{1}{3}$ –1 inch wide, broadly lanceolate or lanceolate-obovate, acute at base, mucronate, opaque, prominently ribbed and closely penninerved beneath, fulvo-sericeous. *Stipules* setaceo-subulate, free. *Peduncles* terminal and axillary, subcorymbose, 1–2 inches long, bearing globose or oblong capitate-spikes of flowers. Each flower is subtended by a subulate bract, and has a pair of setaceous bracteoles at the base of the calyx. *Calyx* subinflated, with a narrow mouth, silky. *Vexillum* narrow, spathulate, silky on the outside, concave, not bent backwards. *Alæ* widely spreading. *Carina* quite straight, as is also the short style. *Ovules* 6–8 in a double row.

With a habit like some *Psoraleæ*, this plant has essential characters nearer *Lotononis*, from which the corolla and style and the whole habit separate it. From *Psoralea* it differs in having numerous ovules and monadelphous stamens.

Fig. 1, *Pleiospora cajanifolia*; the natural size. Fig. 2, a flower; 3, the calyx laid open; 4, vexillum and alæ; 5, staminal tube laid open; 6, ovary cut vertically; all magnified.

## LXXXII. ASTRAGALUS BURKEANUS, Benth. (*Leguminosæ.*)

**A. Burkeanus**: erectus, glaberrimus, glaucescens; stipulis maximis foliaceis semicordato-oblongis acutis liberis; foliolis 8–12-jugis oblongis mucronatis; pedunculis folio longioribus, floribus racemosis patentibus; calycis laciniis tubum campanulatum equantibus; legumine elongato compresso glabro longiuscule stipitato.—*Benth. in Herb.*

HAB.—Magaliesberg, *Burke & Zeyher!* (Herb. Hook. Sond.)

DESCR.—*Root* annual. *Stems* 12–18 inches high, slightly flexuous, terete, pale. Lower stipules uncial, 5–6 lines wide; upper, shorter and narrower. *Leaflets* 6–7 lines long, 2–3 wide, varying from narrow oblong to sub lanceolate, pale green and thin. *Flowers* small and slender, scarcely 4 lines long. *Calyx* tube 1 line long, the segments narrow-lanceolate. *Petals* subequal, or the alæ rather the shorter. *Stipe* of the legume 2–3 lines long; legume 1 inch long, 2½ lines wide, completely bilocular, netted with veins, and thin.

This belongs to the section “*Galegiformes*,” and is nearly allied to *A. graveolens*, *tigrensis*, *venosus*, and *Abyssinicus*. It is highly interesting in a geographical point of view, being the only species of the ex-



tensive genus *Astragalus* found in the south temperate zone of the old world. Several occur in America, to the south of the equator.

Fig. 1, *Astragalus Burkeanus*; the *natural* size. Fig. 2, the calyx laid open; 3, the diadelphous stamens; 4, cross section of the ovary; 5, an ovule; all *magnified*.

LXXXIII. PLECTRANTHUS PURPURATUS, Harv. (*Labiatae*.)

**P. purpuratus**: caule herbaceo carposo tenuissime puberulo, foliis petiolatis ovatis obtusis basi vix cuneatis carnosis glaberrimis vel microscopice puberulo-velutinis, subtus læte-purpureis obtusissime crenatis, floralibus minutis, racemo simplice, verticillastris laxe sexfloris, calycis dente supremo ovato acuto inferioribus subulatis, corollâ puberulâ calyce vix duplo longiori tubo basi saccato.

HAB.—Port Natal, *Mr. Vance*. Cult. at Kew. (Herb. T. C. D.)

DESCR.—*Stem* herbaceous, 12–14 inches high, branching, succulent and brittle, quadrangular. *Leaves* in subdistant, decussating pairs, patent, on petioles 4–5 lines long, ovate or subrotund, obtusely or obsoletely crenate. The surface is microscopically puberulous, the down being more obvious in the dry than in the living specimen. The under surface of the leaves is a rich purple. The flowers are small and pale. *Corolla* wavy.

Figured and described from a plant cultivated at Kew, raised from Natal seeds.

Fig. 1, *Plectranthus purpuratus*; the *natural* size. Fig. 2, the calyx; 3, the same laid open; 4, a flower; 5, a corolla laid open, showing the stamens on the tube; 6, a stamen; variously *magnified*.

LXXXIV. DISA MELALEUCA, Thunb. (*Orchideæ*.)

**D. melaleuca**: foliis radicalibus pluribus lineari-lanceolatis acutis canaliculatis, caulinis numerosis acuminatis patulis vaginantibus, corymbo dense multifloro, galea obtuse-umbonata ecalcarata, sepalis ovato-oblongis patentibus planis subtus carinatis vix mucronulatis, petalis oblongis concavis basi et apice denticulatis, labello lineari-oblongo apiculato basi utrinque obsolete dentato. *Thunb. Fl. Cap.* p. 16; *Penthea melaleuca*, *Lindl. Sp. Orch.* p. 361.

HAB.—About Table Mountain, and the Hex River, *Thunberg*. Dutoits kloofsberg, and Cederbergen, *Drege*! Near Cape Point, *Sir John Herschel*, *Bt.*! Table Mountain, *W. H. H., Ecklon & Zeyher*! (Herb. T. C. D., &c.)

DESCR.—*Stem* 6–8 inches high, densely leafy to the summit; ending in a broad and very flat, many flowered corymb. Flowers horizontally patent; the wide-spreading sepals and reflexed galea brilliant white; the petals and labellum black and velvety. Anther reclinate.

A very pretty, and not uncommon species. Lindley's genus *Penthea*, to which this belongs, merely differs from *Disa* by the absence of



a spur to the galea; but in *Disa* the spur varies extremely; and in *D. secunda* is nearly as obsolete as in the present plant.

Fig. 1, *Disa melaleuca*; the *natural* size. Fig. 2, side view of flower, with bract; 3, front view of flower; 4, view of galea; 5, a petal; 6, the labellum: 7, anther and stigma; all *magnified*.

### LXXXV. DISA FASCIATA, Lindl.

(*Orchideæ*.)

**D. fasciata:** caule foliis parvis latis cuspidatis squamæformibus laxè vaginato, floribus solitariis geminisque terminalibus, sepalis oblongis obtusis, intermedio (galea) antico basi calcare conico acuminato brevi acuto, petalis nanis concavis auriculæformibus lobatis, labello subsessili ovali planiusculo. *Lindl. Sp. Orch.* p. 350.

HAB.—Cape, *Ecklon*. Summit of Table Mountain, October, *W. H. H.* (Herb. T. C. D.)

DESCR.—Stem 4–6 inches high, completely sheathed with numerous, very short, horizontally patent or reflexed, ovate-acuminate leaves, whose loose sheaths are fasciated with purple streaks. *Flowers* 1–2, ending the stem, brilliant white, horizontally patent. *Galea* anterior, its small spur pendulous, its limb flat and obovate. *Sepals* equalling the galea, very blunt. *Petals* small, bullated and black-dotted, 2–3 lobed. *Anther* very small.

A rare species. I never found more than one specimen, and have not received it from any correspondent.

Fig. 1, *Disa fasciata*; 2, side view of a flower; 3, galea; 4, sepals; 5, labellum; all of the *natural* size. Fig. 6, petals; 7, petals and column in situ; 8 and 9, different views of stigma and anther; *magnified*.

### LXXXVI. DISA SPATHULATA, Sw.

(*Orchideæ*.)

**D. spathulata:** foliis gramineis rigidis striatis acutissimis subfalcatis, vaginis 2–3 distantibus laxis brevibus membranaceis acuminatis, caule laxè 2–4-floro, bracteis oblongis acuminatis ovario subduplo brevioribus, sepalis ovatis apice inflexis tortis, galea unguiculata incumbente ovata acuta calcare brevi recto obtuso aucta, labello longissime unguiculato cordato trilobo crenato striato, petalis supinis falcatis apice spathulatis-bilobis basi auriculatis. *Lindl. Sp. Orch.* p. 353; *Thunb. Fl. Cap.* p. 15; *Bauer, Illustr. Ger.* t. 14.

HAB.—Hills near Mosselbank, and Riebeck Casteel, and other places in Cape District, *Thunberg*. Between the Paarl and Paarlberg, *Drege*. In clayey soil, among shrubs, at Steendal, Tulbagh, *Dr. Pappe!* (Herb. T. C. D.)

DESCR.—Bulb ovate. Radical leaves very numerous, 4–5 inches long, setaceous below, widening upwards, and about 1 line wide above, grass-like, rigid, finely striate longitudinally, very acute, curved. *Stem* about twice as long as the leaves, with 3, sometimes but 2, distant, short, membranous sheaths, and bearing 2–4 flowers at distances



of 1–1½ inches. *Ovary* 1¼ inch long, sessile. *Flowers* pink or purple. *Labellum* on a long, slender, channelled claw, bluntly 3-lobed and crenate.

A remarkable plant. It varies in the length of the claw of the labellum, the bluntness or sharpness of the labellum-lobes, the length of the spur of the galea, and the colour of the flower. Is *D. atropurpurea*, Sond. distinct? Perhaps even *D. tripartita*, Lindl., may be an *extreme* variety.

Fig. 1, *Disa spathulata*: the *natural* size. Fig. 2, the galea; 3, a petal; 4, a sepal; 5, the labellum, stigma, and anther, in situ, on a frustum of the ovary; *magnified*.

LXXXVII. SATYRIDIDIUM ROSTRATUM, Lindl. (Orchideæ.)

**S. rostratum**: *Lindl. Sp. Orch.* p. 345; *Sond. in Linn.* 19, p. 89.

HAB.—Dutoits kloof, *Drege*. Hex River, *Ecklon & Zeyher*. In the French Hoek, *W. H. H.* (Herb. T. C. D.)

DESCR.—Bulb oblong. *Lower leaves* narrow lanceolate, concave, patent, subacute, 2–2½ inches long; upper depauperating rapidly into short, erect close sheaths, of which 5 or 6 are distributed along the 12–14 inch long stem. *Spike* dense, many flowered. *Bracts* ovate, acute, reflexed. *Ovary* sessile. *Flowers* 3 lines long, rosy-white, with purple spots in front; the labellum greenish, with cloudy purple spots outside; anther bright carmine. *Sepals* lanceolate-oblong obtuse; the middle one rather smallest. *Petals* narrow and shorter than the sepals, similar in form. *Labellum* posterior, patent, shortly 2-spurred behind, ridged at back and produced at the apex into a long, slender, acute point. *Column* slender, porrect, stigma minute, terminal.

Fig. 1, *Satyrididium rostratum*; the *natural* size. Fig. 2, side view of a flower; 3, front view; 4, 5, back and front views of the labellum; 6, sepals; 7, petals; 8, front and side views of the column; *magnified*.

LXXXVIII. HABENARIA BOLTONI, Harv. (Orchideæ.)

**H. (Bonatea) Boltoni**: caule elato folioso, foliis oblongo-lanceolatis undulatis acutis coriaceis laxè vaginantibus, bracteis membranaceis cucullatis acuminatis ovario brevioribus, floribus galeatis, petalis bipartitis galeæ longitudine, laciniis lineari-lanceolatis posticis latioribus sepalo postremo adnatis anticis labello basi adnatis, labello profunde trilobo laciniis linearibus acutis planiusculis apice revolutis, rostello ciliato, processibus carnosissimis spathulatis canaliculatis obtusis sepalis brevioribus, calcare filiformi pendulo labello longiore.

HAB.—Near Grahamstown, *Gen. Bolton*. (Herb. T. C. D.)

DESCR.—*Stem* densely leafy throughout. *Leaves* erect, oblongo-lanceolate, acute, strongly undulate, the upper shorter, stem-clasping



and sheathing at base, of thick substance, rigid when dry. *Spike* densely several flowered. *Bracts* erect,  $\frac{1}{2}$  as long as the slender ovary, ovate-oblong, acuminate. *Flowers* galeate; the galea formed by the concave posterior sepal, and the posterior segments of the bipartite petals. *Ant. sepals* oblong, acute or acuminate. *Petals* as long as the sepals, bipartite to the base, the segments with a rounded sinus between; both lobes linear-lanceolate, but the posterior broader and thinner. *Rostellum* hood-shaped, ciliate, free from the erect anther; processes of the stigma very long, fleshy, channelled above, spathulate. *Labellum* deeply 3-parted, with slender lobes and a long, pendulous spur, thickened and glandular at the point.

This is very near *H. (Bonatea) speciosa*, but differs in foliage, the shorter bracts, longer spur, &c., and was considered by Dr. Lindley, who saw the specimen figured, to be new. I fear, however, that *H. speciosa* may be a more variable plant than we in Europe suspect, and that the present form may be only a marked variety.

Fig. 1, *Habenaria Boltoni*; the natural size. Fig. 2, the back sepal; 3, one of the lateral sepals; 4, apex of ovary, surmounted by anther, stigma (its hood-shaped rostellum and two projecting fleshy, spoon-shaped processes), the anterior (erect) segments of the petals, and the 3-parted and long-spurred labellum; 5, the rostellum, front view; 6, a pollen mass, with caudicle and gland; *magnified*.

### LXXXIX. DOMBEYA DREGEANA, Sond.

(Byttneriaceæ.)

**D. Dregeana**: ramulis teretibus glabris; foliis longe petiolatis cordatis acutis acuminatisve angulatis v. trilobis dentatis minute stellato-pubescentibus 5-7 costatis, pedunculis filiformibus axillaribus foliis longioribus, umbellis 2-4-floris pedicellis stellato-pubescentibus, involucelli foliolis late-ovatis acuminatis sepalisque lanceolatis reflexis tomentosis, staminodiis spathulatis stylum 5-fidum equantibus, ovario globoso tomentoso. *Sond. in Linn.*, vol. xxiii., p. 18. *Harr. & Sond. Fl. Cap.*, i. p. 221. *Leeuwenhoekia tiliacea*, *E. Mey.*! *ex parte*. *Xeropetalum tiliaceum*, *Endl.*

**HAB.**—Districts of Uitenhage and Albany, and in Caffraria, *Drege*! *Mrs. F. W. Barber*! *Mr. Brownlee*, *Mr. H. Hutton*, &c. Sea-coast of Albany, *Miss Ida Atherstone*! (Herb. T. C. D.)

**DESCR.**—A shrub or small tree; the young twigs, petioles, leaves, and inflorescence shortly stellato-pubescent. *Petioles* uncial. *Leaves*  $1\frac{1}{2}$ -2 inches long,  $1-1\frac{1}{2}$  broad, cordate at base, angular or somewhat 3-lobed, tapering to an acute point, crenato-dentate, patent. *Peduncles* 2 inches long, spreading or pendulous, bearing 2-4 terminal, pedicellate white flowers, changing afterwards to rosy-pink. *Involucel* 3-leaved, unilateral; the leaflets broadly ovate. *Calyx* reflexed, persistent. *Petals* roundish-obovate, broader than long, patent, persistent, enlarged after flowering.

A much branched bush, bearing a profusion of white or rosy blossoms, as large as wild roses, and much more durable. *Miss Atherstone*,



to whom I am indebted for the specimen here figured, describes it as "most beautiful;" and Dr. Atherstone adds, that the long drought of 1858-59 caused it and several other bushes to put forth a more than ordinary display of blossoms. "Many plants that had not been seen blossoming for 20 years," blossomed profusely after the drought.

Fig. 1, *Dombeya Dregeana*; the natural size. Fig. 2, the stamens, surrounding the ovary; 3, the staminal ring, laid open; 4, ovary and style; 5, cross section of ovary; 6, one of the involucral leaflets; variously magnified.

**XC. ASPIDOGLOSSUM FASCICULARE, E. Mey. (*Asclepiadææ*.)**

**A. fasciculare:** caule erecto simpliciusculo hirsuto, foliis infimis latioribus basi ovatis breve petiolatis, supremis linearibus lineari-lanceolatisve hispidis pubescentibus margine revolutis nervo valido hispido, pedunculo nullo, florum fasciculis 6-8-floris, pedicellis hirtellis, corolla reflexa, coronæ stamineæ foliolis utrinque denticulo marginali erecto auctis. *E. Mey. ! Comm. p. 200. Dne. in DC. Prod. 8, p. 555.*

HAB.—Grassy places on the Katberg and Windvogelberg, 4-5000 ft., *Drege !* Transkei Country, *Henry Bowker, Esq. !* No. 93. (Herb. T. C. D.)

DESCR.—*Root ? Stem* 6 inches to 2 feet high, nearly or quite simple, pale green, subquadrangular, thinly hispid. *Lower leaves* often in broken pairs or irregularly scattered, upper either opposite or in threes; the lowermost ovate-oblong or linear-oblong, acute,  $1\frac{1}{2}$  inch long, 3-4 lines wide, the upper narrow and more attenuated, all laxly hispid, especially towards the revolute margin and on the midrib. *Flowers* dark brown, segments of the reflexed corolla lanceolate, acute. *Cusp* of the corona twice as long as the scale, channelled, recurved, acute; scale keeled at back, mucronate, the margin at each side produced into a sharp, erect tooth. *Pollen* masses lunate, blunt at each end.

Fig. 1, *Aspidoglossum fasciculare*; the natural size. Fig. 2, front view of flower: 3, side view of the corona scales; 4, front view of the same; 5, back view of the same; 6, pollen masses and gland; 7, stigma; variously magnified.

**XCI. ASTEPHANUS MARGINATUS, Dne. (*Asclepiadææ*.)**

**A. marginatus:** volubilis, ramosissimus, ramulis junioribus pubescentibus adultis glabris, foliis petiolatis ovatis ellipticisque mucronulatis glabris coriaceis margine crasso revolutis, pedunculis petiolum superantibus 5-8-floris pedicellis minutissime puberulis, corollæ tubo intus basi lineis quinque retrorsum hispidis aucto, stigmate elongato. *Dne. in DC. Prod. 8, p. 508.*

HAB.—In the bush, near the Kleinmund, Albany, *Mrs. Henry Hutton !* (Herb. T. C. D.)

DESCR.—A much-branched twining plant, minutely downy in the young parts, otherwise quite glabrous and glossy. *Petioles* 3 lines long.



*Leaves* thick and leathery, or slightly carnose, elliptic-oblong or ovate, an inch long,  $\frac{1}{2}$  inch wide, acute or mucronulate, with reflexed and thickened margins. *Flowers* yellow or cream-coloured, 4–8 in an umbel. *Bracts* minute, subulate. *Corolla* campanulate,  $2\frac{1}{2}$  lines long; its lobes oblong, obtuse, the tube furnished within at base with 5 longitudinal lines of reversed bristles, opposite the lobes. *Membranes* of the anther ovate. *Stigma* pyramidal, tapering to a sharp point.

I have not seen any specimen of Decaisne's plant, to which I venture to refer the plant here figured. In the 5 hairy lines within the corolla (not alluded to by Decaisne) there is an approach to *Microlooma*. It is possible I may be incorrect in the reference. Mrs. Hutton speaks of it as a beautiful plant.

Fig. 1, *Astephanus marginatus*; the natural size. Fig. 2, a flower; 3, the corolla laid open; 4, stamen surrounding the pyramidal stigma; 5, pollen masses and gland; variously magnified.

## XCII. MICROLOMA LINEARE, R. Br.

(*Asclepiadaceæ*.)

**M. lineare**: volubile, glabriusculum, foliis anguste linearibus glabris in petiolum attenuatis marginibus reflexis, calyce dimidium corollæ tubum vix æquante, corollæ laciniis rotundatis brevibus hinc basi fasciculo pilorum auctis, folliculis attenuatis glabris. *R. Br. Wern. Soc. i. p. 53*; *E. Mey. Comm. p. 222*; *Dne. in DC. Prod. 8, p. 510*; *Ceropegia tenuifolia, Thunb. Fl. Cap. p. 231*.

HAB.—In dry ground, among shrubs, throughout the Colony, not rare. (Herb. T. C. D., &c.)

DESCR.—*Root* fleshy. *Stems* much branched, wiry, several feet long, glabrous or nearly so. *Leaves* in distant pairs,  $1\frac{1}{2}$ –2 inches long, 1 line wide, patent or reflexed, acute, glabrous, with revolute margins. *Peduncles* much shorter than the leaves, umbellately several flowered. *Corolla* waxy, bright crimson, 3 lines long, with 5 prominent rounded ridges and alternate deep furrows.

I am indebted to Mrs. Holland, of Port Elizabeth, for the drawing here given.

Fig. 1, *Microlooma lineare*; the natural size. Fig. 2, a flower; 3, the corolla laid open; 4, stamens and stigma; 5, pollen masses and gland; variously magnified.

## XCIII. BRACHYSTELMA FILIFORME, Harv.

(*Asclepiadaceæ*.)

**B. (Dichaelia) filiforme**: multicaule, caulibus erectis puberulis di-tri-chotomis nudis v. foliatis, foliis (parvis) subsessilibus linearibus obtusis v. mucronulatis carnosulis scabrellis, corollæ tubo brevissimo, limbi laciniis basi ovatis longe lineari-attenuatis apice cohærentibus glabris, coronâ stamineâ duplici serie 10-lobâ, lobis exterioribus profunde bifidis, interioribus oblongis integris obtusis.

HAB.—Near Uitenhage, *C. Zeyher*! Cradock District, *Mrs. F. W. Barber*. (Herb. T. C. D.)



DESCR.—*Root* turnip-shaped, perennial. *Stems* herbaceous, annual, numerous, 6–8 inches high, forked or oppositely much branched, either bare of leaves or furnished with subdistant pairs. *Leaves*  $\frac{1}{2}$ – $\frac{3}{4}$  inch long, scarcely 1 line wide, obtuse or mucronate, scaberulous, especially on the under side, narrowed toward the base. *Flowers* in axillary pairs, on very short pedicels, brownish purple. The lobes of the corolla are 4–5 times as long as the tube, ovate at base, with reflexed sinuses, and produced into a long, linear point; they cohere at the apex. *Corona* staminea double, the 5 outer lobes, alternating with the stamens, longest, deeply and sharply bifid; the 5 inner, opposite the stamens, incumbent, oblong, obtuse. Between each stamen are two small teeth (the margins of the confluent filaments). Follicles glabrous,  $2\frac{1}{2}$ –3 inches long.

“The large flat root is eaten by the Dutch inhabitants, and much esteemed as a preserve, under the name, ‘*Kalkoujes*,’” *Mrs. Barber*. Except in the doubling of the corona, this curious plant does not greatly differ from *Brachystelma*, to which genus I refer it, under the subgeneric name *Dichaelia*.

Fig. 1, *Brachystelma filiforme*; the natural size. Fig. 2, a flower; 3, corolla laid open; 4, the corona staminea; 5, part of the corona, and two stamens, laid open, front view; 6, pollen masses and gland; variously magnified.

#### XCIV. PTERYGODIUM VENOSUM, Lindl.

(*Orchideæ*.)

**P. venosum**: foliis lineari-lanceolatis convolutis caulem vestientibus, spicâ densâ cylindraceâ, sepalis ellipticis concavis subæqualibus, petalis cuneatis serratis sepalis longioribus, labello subrotundo-cordato serrato, appendice minimo labello adnato excavato, rostello biauriculato auriculis lanceolatis obtusiusculis reflexis.—*Lindl. Sp. Orch. p. 367*.

HAB.—Cape, *Villet*, in Hb. Lindl. On the Winterhoek, Tulbagh, at 3000 ft., *Dr. Pappe*! Nov. (Herb. T. C. D., Hook., Lindl.)

DESCR.—*Stem* 6–12 inches high, or rather more, densely clothed throughout with leaves, and ending in a long, dense spike of sweet-scented flowers. *Leaves* linear lanceolate, attenuate, involute, the lower somewhat sheathing, the upper amplexicaul, turning black in drying. *Flowers* very numerous. *Bracts* erect, longer than the ovary. *Sepals* reflexed, the medial rather narrower than the lateral, but equally long, all concave, elliptic-oblong. *Petals* broadly cuneate or flabelliform, coarsely and bluntly indented. *Labellum* broader than long, cordate at base, bluntly toothed. *Lobes* of the rostellum resembling asses' ears, rising conspicuously between the petals.

A very rare species, existing in few herbaria, and not found by either Ecklon or Drege. I am indebted to Dr. Pappe for well-dried specimens, from one of which our figure has been prepared. The spike is sometimes longer and more densely flowered than here shown.

Fig. 1, *Pterygodium venosum*; the natural size. Fig. 2, sepals; 3, sepals and petals; 4, front view of labellum, and column; 5, back view of the same; magnified.



## XCV. CLIFFORTIA CRENATA, Linn. f.

(Rosaceæ.)

**C. crenata:** foliolis binis late orbiculatis basi subcordatis planis appressis calloso-marginatis denticulatis glabris nitentibus pluri-nerviis laxè reticulatisque; floribus sessilibus, calycis laciniis ovatis. *Linn. f. Suppl.* p. 430, *DC. Prod.* 2, p. 596.

HAB.—Mountain sides, Hex Rivier, *Thunberg*, *Drege*, Kochman's kloof, near Swellendam Baths, *Ecklon & Zeyher*. Near Gnadendal, *Dr. Roser*. (Herb. T. C. D.)

DESCR.—A rigid, glabrous shrub, but slightly branched. *Branches* a foot long or more, quite simple, slightly incurved, closely imbricated throughout with very rigid leaves. *Leaves* sessile, bifoliolate; each leaflet about  $\frac{3}{4}$  inch long, and nearly 1 inch wide, between orbicular and reniform, thick in substance, glossy above, with immersed, laxly reticulated veins, the margin cartilaginous and denticulate. The nodes are scarcely two lines apart, and strongly marked on the old naked stems. *Flowers* (male) solitary, hidden under the leaves, either 3 or 4-parted, the segments ovate, veiny, subacute. *Filaments* very slender; anther deeply 2-lobed.

Fig. 1, *Cliffortia crenata*, a branch; the *natural* size; Fig. 2, a binate leaf; 3, 4, different flowers, *male*; 5, a stamen; *magnified*.

## XCVI. ZEHNERIA (PILOGYNE) GARCINI, Stocks.

(Cucurbitaceæ.)

**Z. Garcini:** caule vix hispidulo demum glabrato angulato, foliis palmato-3-5-lobis dentatis dentibus mucronatis utrinque setulis rigidis conspersis, pedunculis masculis brevissimis paucifloris bracteâ maximâ cordatâ ciliatâ suffultis, “baccis malleiformibus dispermis, seminibus contorto-obliquis hinc subconvexis inde canaliculato-sulcatis margine obtuso.” *Stocks*, in *Hook. Kew. Journ.* 4, p. 149; *Bryonia Garcini*, *Willd., W. & Arn. Prod.* p. 344; *DC. Prod.* 3, p. 308; *Wall. Cat.* 6712; *Sicyos Garcini*. *Linn. Mant.* 297; *Burm. Ind. t.* 57, *f.* 3.

HAB.—Near Port Natal, *J. Sanderson, Esq.* (Herb. T. C. D.)

DESCR.—*Stem* slender, several feet long, climbing by simple tendrils, at first hispidulous, then quite glabrous. *Leaves* 2-3 inches apart, spreading; petiole scarcely uncial; lamina broader than long, 2-2½ inches long, about 3 inches broad, sprinkled on both sides with minute, rigid, hooked bristles, more or less deeply 3-5 lobed, the lobes ovate, coarsely toothed, the teeth bristle-pointed. Male peduncle shorter than the petiole, about 2-flowered, with a very large lacero-ciliate bract below the flowers. Male perianth nearly  $\frac{1}{2}$  inch long, with a cylindrical tube and horizontally patent limb. No female flowers seen.

A singular plant found also in tropical India and North Africa,



differing from any South African species of *Zehneria* by the large, ciliated bract, so placed as to look, at first sight, like a stipule.

Fig. 1, *Zehneria Garcini*; the *natural* size. Fig. 2, a flower-bud; 3, an expanded male flower; 4, section of the male perianth, showing the insertion of the three stamens, and the abortive, gland-like ovary; *magnified*.

XCVII. GOMPHOCARPUS CAMPANULATUS, Harv.

(*Asclepiadææ*.)

**G. campanulatus**: caule herbaceo robusto scaberulo, foliis brevè petiolatis lineari-lanceolatis attenuatis hispido-scabris margine revolutis, floribus terminalibus, umbellâ sub-4-florâ, pedicellis corollam equantibus, corollâ globoso-campanulatâ immaculatâ maximâ extus hispidâ, coronæ stamineæ foliolis radiatim patentibus apice in ligulam planam productis marginibus basi arrectis.

HAB.—From Pearson's farm, Port Natal, *J. Sanderson*. (Herb. Hook.)

DESCR.—*Root* tuberous. *Stem*  $1\frac{1}{2}$  foot high, 2 lines in diameter, terete, nearly glabrous. *Leaves* 5–6 inches long, 4–5 lines broad near the base, thence tapering gradually to an acute point, rough or hispid above, with the margins revolute, and the midrib prominent below. *Umbel* 4-flowered, pedunculate, terminal. *Flowers* very convex, 2 inches in diameter, one-coloured (not blotched). *Calyx* and corolla hispid externally. *Corona* star-like; the depressed lobes linear, subacute, flat, broad at base, with the margins erect. *Stigma* depressed.

Our figure, taken from a sketch made by Mr. Sanderson at Natal, does not show the roughness proper to leaves and corolla, as we find them on the specimen preserved in Herb. Hook., and here described.

Fig. 1, *Gomphocarpus campanulatus*; the *natural* size. Fig. 2, corona staminea; 3, one of its squamæ; 4, stigma; 5, pollen masses and gland; variously *magnified*.

XCVIII. FISSENIA CAPENSIS, R. Br.

(*Loasaceæ*.)

**F. Capensis**: *R. Br. MS. Endl. Suppl.*, 2, p. 76; *Cnidone Mentzeloides*, *E. Mey.* in *Hb. Drege*.

HAB.—Between Verleptpram and the mouth of the Gariep, 1000 ft., and less, *Drege!* Sep. Aapjes River, *Dr. Atherstone!* Namaqualand, *Andrew Wyley, Esq.!* (Herb. T. C. D.)

DESCR.—*Stem* rigid, robust, half-woody, striate, and very scabrous and pale coloured, as are also all parts of the plant. *Leaves* alternate, petiolate, the lower ones 5–7-lobed, 2–3 inches long, coarsely toothed, ribbed and veined, thickish and very rough, the upper gradually smaller, and less lobed, passing at the summit into linear or lanceolate bracts.



*Flowers* in a terminal, scorpioid cyme, subsessile. *Calyx* much enlarged after flowering, its rigid, erect lobes forming a crown to the fruit. *Calyx* tube obconical, ribbed, shaggy with fulvous, straight hairs; limb 5-parted, the segments oblong, flat, blunt, foliaceous, 3-ribbed, much longer than the corolla. *Petals* 10, in two rows, those alternating with the calyx lobes roundish, very concave or cucullate: the others ligulate, sub-bidentate, angularly bent above the middle or sigmoid, small. *Stamens* very numerous, the outer barren, with cordate bases; the inner fertile, on subulate filaments. *Style* trifid. *Ovules* one in each cell.

This is the only *Loasaceous* plant found in South Africa, and one of the very few inhabiting the old world. A *Fissenia* occurs in Arabia, but whether specifically the same as our plant, I cannot say.

Fig. 1, *Fissenia Capensis*; the natural size. Fig. 2, side view of the flower; 3, front view; 4, one of the outer petals; 5, an inner petal; 6, a fertile stamen; 7, a barren filament; 8, the adnate ovary, the calyx-limb removed; 9, section of the ovary; magnified.

## XCIX. IXIANTHES RETZIOIDES, Benth. (Scrophularineæ.)

**I. Retzioides:** *Benth. ! in Hook. Comp. Bot. Mag.* 2, p. 53; *DC. Prod.* x., p. 335.

**HAB.**—In the districts of Worcester and Tulbagh, *Ecklon & Zeyher !* River banks above the Tulbagh Waterfall, *Dr. Pappe !* (Herb. T. C. D.)

**DESCR.**—A robust, densely leafy shrub, the younger parts more or less hairy, the older glabrous. *Internodes*  $\frac{1}{2}$ – $\frac{3}{4}$  inch long. *Leaves* whorled, 3–4 in a whorl, 4–5 inches long, 3–4 lines wide in the middle, linear-lanceolate, acute, tapering much at base, distantly denticulate beyond the middle, hispidulous, becoming glabrous. *Peduncles* axillary, one flowered, much shorter than the leaves, bibracteate in the middle. *Calyx* rigid, veiny, bilabiate; the upper lip erect, sharply 3-toothed, lower spreading, bipartite, the segments ovato-lanceolate. *Corolla* with a very globose tube and patent 5-parted limb; the lobes obtuse, veiny. *Stamens* 2, perfect; rudiments of 3 others. *Capsule* splitting through the axis. *Seeds* numerous.

I am indebted to Dr. Pappe for fine specimens of this handsome shrub, but am uncertain whether I have correctly *restored* the flower from its collapsed condition. It is well worth introducing to England.

Fig. 1, *Ixianthes Retzioides*; the natural size. Fig. 2, calyx and peduncle; 3, back view of corolla; 4, stamens; 5, capsule; 6, a seed; the three latter figures magnified.

## C. MUSCI.

(*Mosses.*)

This plate has been drawn from sketches of Cape Mosses furnished to me by *Mr. W. Mitten*, of Hurst Pierpoint, Sussex, who has also forwarded the following descriptions, and on whose behalf, as well as



on my own, I now solicit from correspondents in South Africa, specimens of *Mosses* and *Hepaticæ* and *Lichenes*.

FIG. A.—*EPHEMERUM DIVERSIFOLIUM*, Mitt.

**E. diversifolium** : monoicum, habitu, E. sessilis, foliis inferioribus seu exterioribus patulis lanceolatis sensim angustatis nervo percurrente integerrimis interioribus longioribus erectioribus superne latioribus enerviis integerrimis, theca sessile ovata rostellata, floribus masculis parvis gemmiformibus ad basin cauli aggregatis.

HAB.—In a field near the Zwartkop's River, Uitenhage, *Zeyher*. (Herb. Mitten.)

The distinctly nerved exterior and nerveless interior leaves of this species, as well as their entire margins, suffice to distinguish it from all its allies; it produces an abundance of stolones, which are much branched at their extremities and almost bury the plants, when in a fertile state, in a stratum of confervoid filaments.

Fig. 1, Plant of the *natural* size. Fig. 2, the same; 3, an exterior leaf; 4, an interior leaf; and 5, the capsule, vaginula, and calyptra; all *magnified*.

FIG. B.—*ENTOSTHODON CLAVATUS*, Mitt.

**E. clavatus** : monoicus caule brevi foliis comalibus patentibus ovali-ellipticis acumine brevi flexo nervo sub apice evanido margine integerrimis theca in pedunculo brevi horizontale claviformi operculo plano peristomio nullo?

HAB.—Cape of Good Hope, *Menzies*. (Herb. Hooker et Mitten.)

Allied to the Abyssinian *E. curvipes*, but with a more clavate capsule, which appears to be destitute of peristome, and the leaves are of a more elliptic form. The calyptra has not been seen.

Fig. 1, A plant of the *natural* size; 2, the same; and 3, a leaf, *magnified*.

FIG. C.—*ENTOSTHODON URCEOLATUS*, Mitt.

**E. urceolatus** : monoicus? caule brevi foliis patentibus comalibus elliptico-lanceolatis sub-spathulatis acuminatis nervo excurrente marginibus apicem versus indistincte serratis integerrimisve theca in pedunculo brevi inclinata pyriformi longicolla deoperculata sub ore contracta urceolata operculo brevi conico sub-plano peristomio nullo.

HAB.—East London, *Capt. E. Rooper*. (Herb. Hooker et Mitten.)

The excurrent nerve of the leaves and the long neck of the capsule, as well as its urceolate form after the fall of the operculum, readily distinguished this species from its allies. *E. Rottleri*, from the East Indies, is, according to authentic specimens, a larger species with a clavate capsule. The calyptra has not been observed in situ; it offers no peculiarity.

Fig. 1, Plant; *natural* size; 2, the same; 3, a leaf; and 4, the capsule after the escape of the sporules; all *magnified*.



## FIG. D.—ENTOSTHODON CAVIFOLIUS, Mitt.

**E. cavifolius**: monoicus? caule brevi foliis patentibus comalibus latissime ovalibus obtusis apiculo brevi curvato terminatis cymbiformi-concavis nervo sub apice evanido margine integerrimo, theca in pedunculo brevi erecta obovata sub-pyriformi brevicolla operculo parvo convexo peristomio dentibus brevissimis rudimentariis.

HAB.—Near Capetown, *Harvey*. (Herb. Mitten.)

A compact little species, in its capsule resembling the European *E. ericetorum*, but in its wide and deeply concave leaves with no evident margin sufficiently distinct from its congeners. The calyptra has not been observed in its mature state.

Fig. 1, Plants of the *natural* size. Fig. 2, the same; 3, a leaf; and 4, a portion of the peristome; all *magnified*.



# ALPHABETICAL INDEX.

[Synonymes in Italics.]

	Plate.		Plate.
<i>Aceridocarpus</i>		<i>Chaetachme</i>	
<i>Natalitius</i> , <i>A. Juss.</i> ,.....	19	<i>nitida</i> , <i>Pl. and H.</i> ,.....	25
<i>Adelanthus</i>		<i>Chascanum</i>	
<i>scandens</i> , <i>Endl.</i> ,.....	23	<i>cuneifolium</i> , <i>E. M.</i> ,.....	28
<i>Alberta</i>		<i>Cissus</i>	
<i>magna</i> , <i>E. Mey.</i> ,.....	45	<i>lanigera</i> , <i>Harv.</i> ,.....	65
<i>Anagallis</i>		<i>Clematis</i>	
<i>Huttoni</i> , <i>Harv.</i> ,.....	4	<i>Oweniæ</i> , <i>Harv.</i> ,.....	9
<i>Anemone</i>		<i>Thunbergii</i> , <i>E. and Z.</i> ,.....	8
<i>Caffra</i> , <i>E. and Z.</i> ,.....	7	<i>Cliffortia</i>	
<i>Aspidoglossum</i>		<i>crenata</i> , <i>Linn. f.</i> ,.....	95
<i>fasciculare</i> , <i>E. Mey.</i> ,.....	90	<i>Cleome</i>	
<i>Astephanus</i>		<i>virgata</i> , <i>Thunb.</i> ,.....	59
<i>marginatus</i> , <i>Dne.</i> ,.....	91	<i>Cnidone</i>	
<i>Astragalus</i>		<i>Mentzelioides</i> , <i>E. M.</i> ,.....	98
<i>Burkeanus</i> , <i>Benth.</i> ,.....	82	<i>Combretum</i>	
<i>Aulaya</i>		<i>congestum</i> , <i>E. M.</i> ,.....	69
<i>coccinea</i> , <i>Harv.</i> ,.....	36	<i>Crabbea</i>	
<i>Bergia</i>		<i>angustifolia</i> , <i>Nees.</i> ,.....	64
<i>decumbens</i> , <i>Planch.</i> ,.....	24	<i>Crotalaria</i>	
<i>Bouchea</i>		<i>platysepala</i> , <i>Harv.</i> ,.....	29
<i>cuneifolia</i> , <i>Sch.</i> ,.....	28	<i>Cuscuta</i>	
<i>Bowkeria</i>		<i>Capensis</i> , <i>Chois.</i> ,.....	39
<i>triphylla</i> , <i>Harv.</i> ,.....	37	<i>Cyclonema</i>	
<i>Brachycorythis</i>		<i>triphyllum</i> , <i>Harv.</i> ,.....	27
<i>ovata</i> , <i>Lindl.</i> ,.....	53	<i>Cycloptychis</i>	
<i>pubescens</i> , <i>Harv.</i> ,.....	54	<i>virgata</i> , <i>E. Mey.</i> ,.....	59
<i>Brachystelma</i>		<i>Cyenum</i>	
<i>filiforme</i> , <i>Harv.</i> ,.....	93	<i>Sandersoni</i> , <i>Harv.</i> ,.....	49
<i>Bracteolaria</i>		<i>tubatum</i> , <i>Benth.</i> ,.....	50
<i>racemosa</i> , <i>Hochst.</i> ,.....	20	<i>Dicoma</i>	
<i>Bryonia</i>		<i>Zeyheri</i> , <i>Sond.</i> ,.....	68
<i>Garcini</i> , <i>Willd.</i> ,.....	96	<i>Disa</i>	
<i>Buchnera</i>		<i>aconitoides</i> , <i>Sond.</i> ,.....	41
<i>cernua</i> , <i>Houtt.</i> ,.....	28	<i>fasciata</i> , <i>Lindl.</i> ,.....	85
<i>cuneifolia</i> , <i>Th.</i> ,.....	28	<i>melaleuca</i> , <i>Thunb.</i> ,.....	84
<i>Cadaba</i>		<i>spathulata</i> , <i>Sw.</i> ,.....	86
<i>Natalensis</i> , <i>Sond.</i> ,.....	60	<i>Discocapnos</i>	
<i>Celtis</i>		<i>Mundtii</i> , <i>Ch. and Sch.</i> ,.....	10
<i>appendiculata</i> , <i>E. M.</i> ,.....	25	<i>Dombeya</i>	
<i>subdentata</i> , <i>E. Mey.</i> ,.....	25	<i>Dregeana</i> , <i>Sond.</i> , ...	89
<i>Ceropegia</i>		<i>Drosera</i>	
<i>Bowkeri</i> , <i>Harv.</i> ,.....	14	<i>ramentacea</i> , <i>Burch.</i> ,.....	26
<i>tenuifolia</i> , <i>Th.</i> ,.....	92	<i>Ehretia</i>	
<i>Cestrum</i>		<i>Zeyheriana</i> , <i>Bk.</i> ,.....	6
<i>venenatum</i> , <i>Th.</i> ,.....	16		



	Plate.		Plate.
Empleuridium		Mitrastigma	
juniperinum, <i>S. and H.</i> , . . . . .	77	lucidum, <i>Harv.</i> , . . . . .	22
Entosthodon		Modecca	
cavifolius, <i>Mitt.</i> , . . . . .	100	digitata, <i>Harv.</i> , . . . . .	12
clavatus, <i>Mitt.</i> , . . . . .	100	<i>Moldenhauera</i>	
urceolatus, <i>Mitt.</i> , . . . . .	100	scandens, <i>Spr.</i> , . . . . .	23
Ephemerum		Nycterinia	
diversifolium, <i>Mitt.</i> , . . . . .	100	Natalensis, <i>Bernh.</i> , . . . . .	58
Erica		<i>Oedmannia</i>	
Alopecurus, <i>Harv.</i> , . . . . .	48	lancea, <i>Thunb.</i> , . . . . .	72
Erythrina		<i>Orobanche</i>	
Sandersoni, <i>Harv.</i> , . . . . .	61, 62	tubata, <i>E. Mey.</i> , . . . . .	50
Eumorphia		Othonna	
Dregeana, <i>DC.</i> , . . . . .	70	scapigera, <i>Harv.</i> , . . . . .	15
Fissenia		Pentarrhinum	
Capensis, <i>R. Br.</i> , . . . . .	98	insipidum, <i>E. Mey.</i> , . . . . .	11
Gardenia		<i>Penthea</i>	
globosa, <i>Hochst.</i> , . . . . .	5	melaleuca, <i>Lindl.</i> , . . . . .	84
<i>Gerardia</i>		<i>Phryma</i>	
tubulosa, <i>Linn.</i> , . . . . .	57	dehiscens, <i>L.</i> , . . . . .	28
Geum		<i>Pilogyne</i>	
Capense, <i>Thunb.</i> , . . . . .	18	Garcini, <i>Arn.</i> , . . . . .	96
Gomphocarpus		Plectranthus	
campanulatus, <i>Harv.</i> , . . . . .	97	purpuratus, <i>Harv.</i> , . . . . .	83
truncatus, <i>Dne.</i> , . . . . .	67	Pleiospora	
Greyia		cajanifolia, <i>Harv.</i> , . . . . .	81
Sutherlandi, <i>H. and H.</i> , . . . . .	1	<i>Polytropia</i>	
Habenaria		pinnata, <i>E. and Z.</i> , . . . . .	79
arenaria, <i>Lindl.</i> , . . . . .	55	Psoralea	
Boltoni, <i>Harv.</i> , . . . . .	88	Zeyheri, <i>Harv.</i> , . . . . .	80
Hibiscus		cajanifolia, <i>Benth.</i> , . . . . .	81
gossypinus, <i>E. and Z.</i> , . . . . .	73	<i>Psychotria</i>	
pusillus, <i>Thunb.</i> , . . . . .	73	obtusifolia, <i>E. Mey.</i> , . . . . .	22
serratus, <i>E. M.</i> , . . . . .	73	Ptæroxylon	
<i>Imbricaria</i>		utile, <i>E. and Z.</i> , . . . . .	17
obovata, <i>Nees.</i> , . . . . .	44	Pterygodium	
Ionidium		venosum, <i>Lindl.</i> , . . . . .	94
Caffrum, <i>Sond.</i> , . . . . .	47	Pyrenacantha	
Ixianthes		scandens, <i>Pl.</i> , . . . . .	23
retzioides, <i>Benth.</i> , . . . . .	99	Rafnia	
Kraussia		crassifolia, <i>Harv.</i> , . . . . .	71
floribunda, <i>Harv.</i> , . . . . .	21	angulata, <i>Thunb.</i> , . . . . .	71
<i>Lagarinthus</i>		lancea, <i>DC.</i> , . . . . .	72
truncatus, <i>E. Mey.</i> , . . . . .	67	lancea, <i>Benth.</i> , . . . . .	71
<i>Leeuwenhoekia</i>		Randia	
tiliacea, <i>E. Mey.</i> , . . . . .	89	Kraussii, <i>Harv.</i> , . . . . .	33
Loranthus		parvifolia, <i>Harv.</i> , . . . . .	35
Natalitius, <i>Meisn.</i> , . . . . .	30	rudis, <i>E. Mey.</i> , . . . . .	34
Lotononis		Raphionacme	
monophylla, <i>Harv.</i> , . . . . .	63	purpurea, <i>Harv.</i> , . . . . .	66
Mackaya		Rawsonia	
bella, <i>Harv.</i> , . . . . .	13	lucida, <i>H. and S.</i> , . . . . .	31
Melanosticta		Rhamphicarpa	
Burchellii, <i>DC.</i> , . . . . .	2	tubulosa, <i>Benth.</i> , . . . . .	57
Microlooma		Rhynchosia	
lineare, <i>R. Br.</i> , . . . . .	92	pinnata, <i>Harv.</i> , . . . . .	79
Mimusops		Satyridium	
obovata, <i>Sond.</i> , . . . . .	44	rostratum, <i>Lindl.</i> , . . . . .	87



	Plate.		Plate.
Schizoglossum		Trichilia	
atropurpureum, <i>E. M.</i> , . . . . .	42	Dregeana, <i>E. Mey.</i> , . . . . .	76
Schotia		Trichodesma	
brachypetala, <i>Sond.</i> , . . . . .	32	angustifolium, <i>Harv.</i> , . . . . .	40
Sicyos		Triumfetta	
<i>Garcini</i> , <i>L.</i> , . . . . .	96	trichocarpa, <i>Sond.</i> , . . . . .	52
Stenoglottis		Tryphostemma	
fimbriata, <i>Lindl.</i> , . . . . .	56	Sandersoni, <i>Harv.</i> , . . . . .	51
Sterculia		Viola	
Alexandri, <i>Harv.</i> , . . . . .	3	decumbens, <i>Linn. f.</i> , . . . . .	46
Sylitra		decumbens $\alpha$ , <i>tenuis</i> , <i>Bartl.</i> , . . . .	46
biflora, <i>E. Mey.</i> , . . . . .	78	decumbens $\beta$ , <i>longifolia</i> , <i>E. M.</i> , . .	46
Tenaris		<i>Xeropetalum</i>	
rubella, <i>E. Mey.</i> , . . . . .	43	<i>tiliaceum</i> , <i>Endl.</i> , . . . . .	89
Thunbergia		Zehneria	
Natalensis, <i>Hook.</i> , . . . . .	38	<i>Garcini</i> , <i>Stocks.</i> , . . . . .	96
Toxicophlæa			
cestroides, <i>A. DC.</i>			
Thunbergii, <i>Harv.</i> , . . . . .	16		

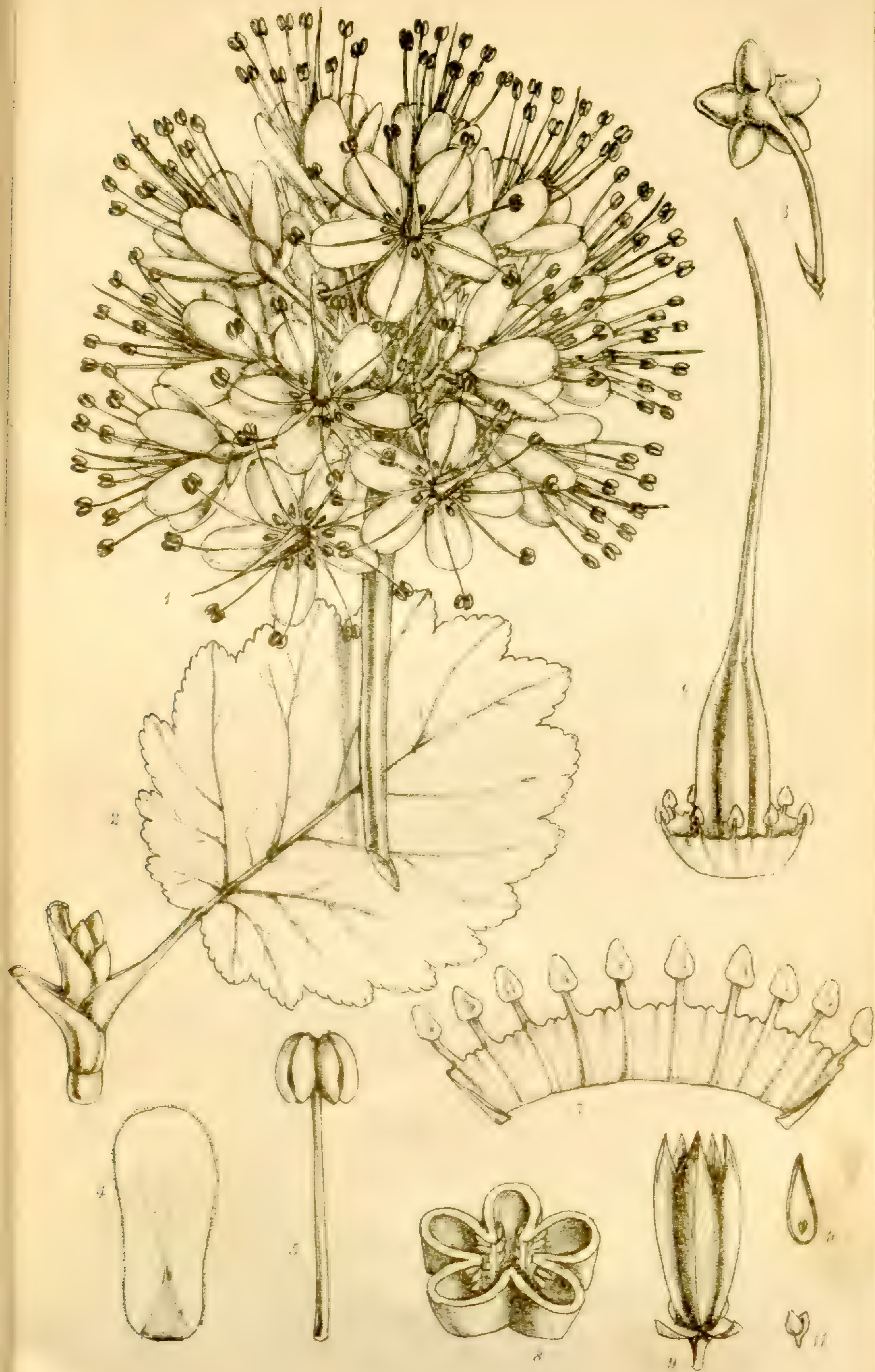
## SYSTEMATIC INDEX.

	Plate.		Plate.
<i>Ranunculaceæ.</i>		<i>Tiliaceæ.</i>	
Clematis Thunbergii, <i>E. and Z.</i> , . . . .	8	Triumfetta trichocarpa, <i>Sond.</i> , . .	52
——— Oweniæ, <i>Harv.</i> , . . . . .	9	<i>Malpighiaceæ.</i>	
Anemone caffra, <i>E. and Z.</i> , . . . . .	7	Acridocarpus Natalitius, <i>A. Juss.</i> , .	19
<i>Fumariaceæ.</i>		<i>Sapindaceæ ?</i>	
Discocapnos Mundtii, <i>Ch. &amp; Sch.</i> . . .	10	Ptæroxylon utile, <i>E. &amp; Z.</i> , . . . . .	17
<i>Cruciferaæ.</i>		<i>Meliaceæ.</i>	
Cycloptychis virgata, <i>E. Mey.</i> , . . . .	59	Trichilia Dregeana, <i>E. Mey.</i> , . .	76
<i>Capparideæ.</i>		<i>Ampelideæ.</i>	
Cadaba Natalensis, <i>Sond.</i> , . . . . .	60	Cissus lanigera, <i>Harv.</i> , . . . . .	65
<i>Bixaceæ.</i>		<i>Rutaceæ ?</i>	
Rawsonia lucida, <i>Harv. &amp; Sond.</i> , . . .	31	Empleuridium juniperinum, <i>S.</i>	
<i>Violariæ.</i>		& <i>H.</i> , . . . . .	77
Viola decumbens, <i>L. f.</i> , . . . . .	46	<i>Leguminosæ.</i>	
Ionidium Caffrum, <i>Sond.</i> , . . . . .	47	Rafnia crassifolia, <i>Harv.</i> , . . . . .	71
<i>Droseraceæ.</i>		——— lancea, <i>DC.</i> , . . . . .	72
Drosera ramentacea, <i>Burch.</i> , . . . . .	26	Crotalaria platysepala, <i>Harv.</i> , . .	29
<i>Elatinaceæ.</i>		Pleiospora cajanifolia, <i>Harv.</i> , . .	81
Bergia decumbens, <i>Pl.</i> , . . . . .	24	Lotononis monophylla, <i>Harv.</i> , . .	63
<i>Malvaceæ.</i>		Psoralea Zeyheri, <i>Harv.</i> , . . . . .	80
Hibiscus pusillus, <i>Thunb.</i> , . . . . .	73	Sylitra biflora, <i>E. Mey.</i> , . . . . .	78
<i>Sterculiaceæ.</i>		Astragalus Burkeanus, <i>Benth.</i> , . .	82
Sterculia Alexandri, <i>Harv.</i> , . . . . .	3	Erythrina Sandersoni, <i>Harv.</i> , . . .	61, 62
<i>Byttneriaceæ.</i>		Rhynchosia pinnata, <i>Harv.</i> , . . .	79
Dombeya Dregeana, <i>Sond.</i> , . . . . .	89	Bracteolaria racemosa, <i>Hochst.</i> , .	20

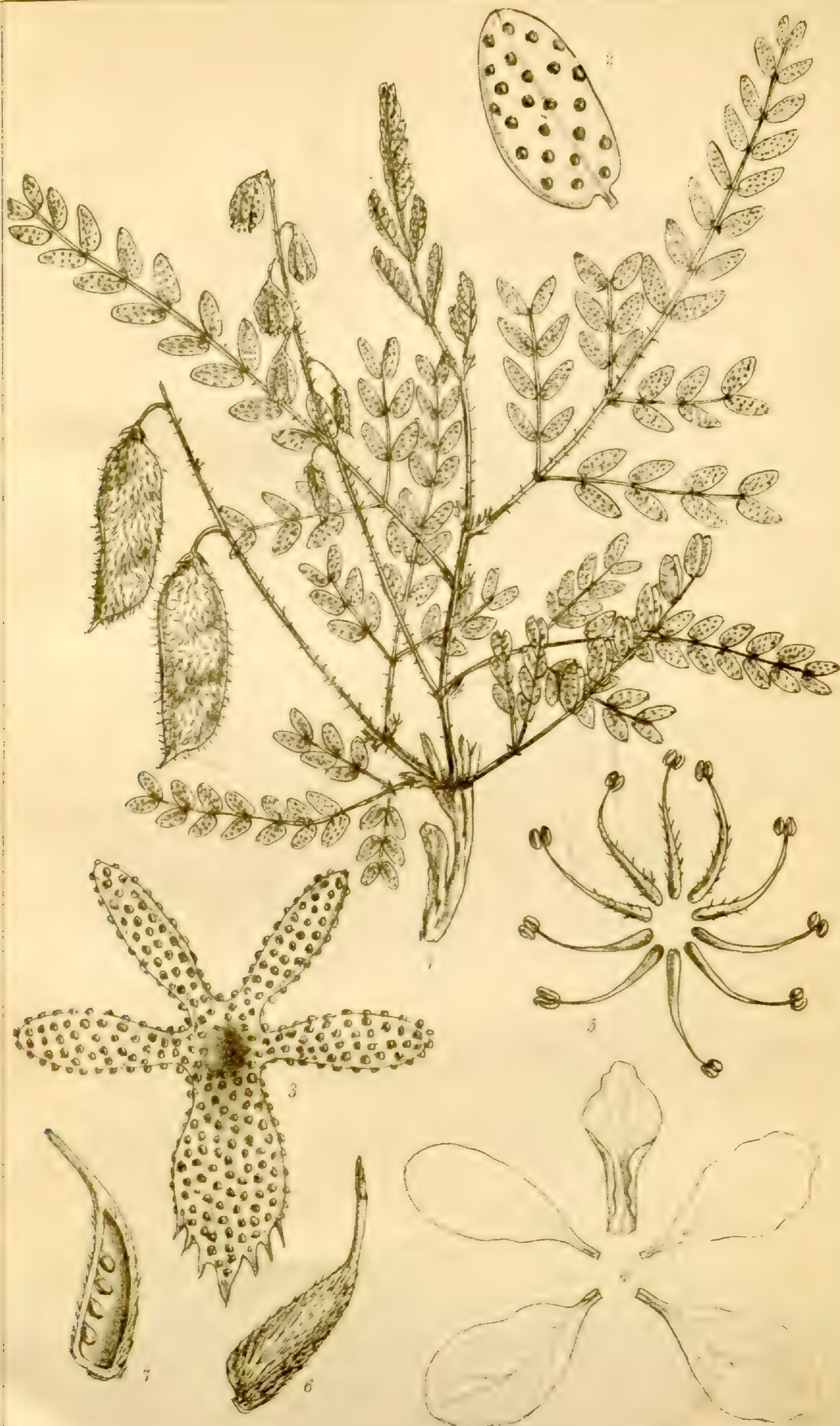


	Plate.		Plate.
<i>Leguminosæ.</i>		<i>Asclepiadææ.</i>	
Melanosticta Burchellii, DC., . . .	2	Gomphocarpus truncatus, Dne.,	67
Schotia brachypetala, Sond., . . .	32	————— campanulatus,	
<i>Rosaceæ.</i>		Harv., . . . . .	97
Geum Capense, Thunb., . . . . .	18	Tenaris rubella, E. Mey., . . . . .	43
Cliffortia crenata, L., . . . . .	95	Ceropegia Bowkeri, Harv., . . . . .	14
<i>Saxifragaceæ.</i>		Brachystelma filiforme, Harv.,	93
Greyia Sutherlandi, Hook &		<i>Apocynææ.</i>	
Harv., . . . . .	1	Toxicophlæa Thunbergii, Harv.,	16
<i>Cucurbitaceæ.</i>		<i>Boraginææ.</i>	
Zehneria Garcini, Stocks, . . . . .	96	Trichodesma angustifolium, H.,	40
<i>Passifloraceæ.</i>		Ehretia Zeyheriana, Buek., . . . . .	6
Tryphostemma Sandersoni, Harv.	51	<i>Convolvulaceæ.</i>	
Modecca digitata, Harv., . . . . .	12	Cuscuta Capensis, Chois., . . . . .	39
<i>Phytocrenææ?</i>		<i>Scrophulariaceæ.</i>	
Pyrenacantha scandens, Pl., . . .	23	Bowkeria triphylla, Harv., . . . . .	37
<i>Loasaceæ.</i>		Ixianthes retzioides, Benth., . . . . .	99
Fissenia Capensis, R. Br., . . . . .	98	Nycterinia Natalensis, Bernh.,	57
<i>Combretaceæ.</i>		Rhamphicarpa tubulosa, Benth.,	58
Combretum holosericeum, Sond.,	74	Cyenum Sandersoni, Harv., . . . . .	49
————— Zeyheri, Sond., . . . . .	75	————— tubatum, Benth., . . . . .	50
<i>Loranthaceæ.</i>		Aulaya coccinea, Harv., . . . . .	36
Loranthus Natalitius, Meisn., . .	30	<i>Acanthaceæ.</i>	
<i>Rubiaceæ.</i>		Thunbergia Natalensis, Hook.,	38
Kraussia floribunda, Harv., . . . . .	21	Mackaya bella, Harv., . . . . .	13
Mitrastigma lucidum, Harv., . . .	22	Crabbea angustifolia, Nees., . . . . .	64
Alberta magna, E. Mey., . . . . .	45	<i>Verbenaceæ.</i>	
Gardenia globosa, Hochst., . . . . .	5	Bouchea cuneifolia, Schauer., . . . . .	28
Randia Kraussii, Harv., . . . . .	33	Cyclonema triphyllum, Harv., . . . . .	27
————— rudis, E. Mey., . . . . .	34	<i>Labiataæ.</i>	
————— parvifolia, Harv., . . . . .	35	Plectranthus purpuratus, Harv.,	83
<i>Compositæ.</i>		<i>Ulmaceæ.</i>	
Corymbium congestum, E. Mey.,	69	Chætacme nitida, Pl. & Harv.,	25
Eumorphia Dregeana, DC., . . . . .	70	<i>Orchideæ.</i>	
Othonna scapigera, Harv., . . . . .	15	Habenaria arenaria, Lindl., . . . . .	55
Dicoma Zeyheri, Sond., . . . . .	68	————— Boltoni, Harv., . . . . .	88
<i>Ericaceæ.</i>		Satyridium rostratum, Lindl., . . . . .	87
Erica Alopecurus, Harv., . . . . .	48	Disa aconitoides, Sond., . . . . .	41
<i>Primulaceæ.</i>		————— fasciata, Lindl., . . . . .	85
Anagallis Huttoni, Harv., . . . . .	4	————— melaleuca, Thunb., . . . . .	84
<i>Sapotaceæ.</i>		————— spathulata, Sw., . . . . .	86
Mimusops obovata, Sond., . . . . .	44	Brachycorythis ovata, Lindl., . . . . .	53
<i>Asclepiadææ.</i>		————— pubescens, Harv.,	54
Raphionacme purpurea, Harv.,	66	Stenoglottis fimbriata, Lindl., . . . . .	56
Astephanus marginatus, Dne., . . .	91	Pterygodium venosum, Lindl., . . . . .	94
Microloma lineare, R. Br., . . . . .	92	<i>Musci.</i>	
Pentarrhinum insipidum, E. Mey.,	11	Ephemerum diversifolium, Mitt.,	100
Schizoglossum atropurpureum,		Entosthodon cavifolius, Mitt.,	100
E. Mey., . . . . .	42	————— clavatus, Mitt.,	100
Aspidoglossum fasciculare, E.		————— urceolatus, Mitt.,	100
Mey., . . . . .	90		

















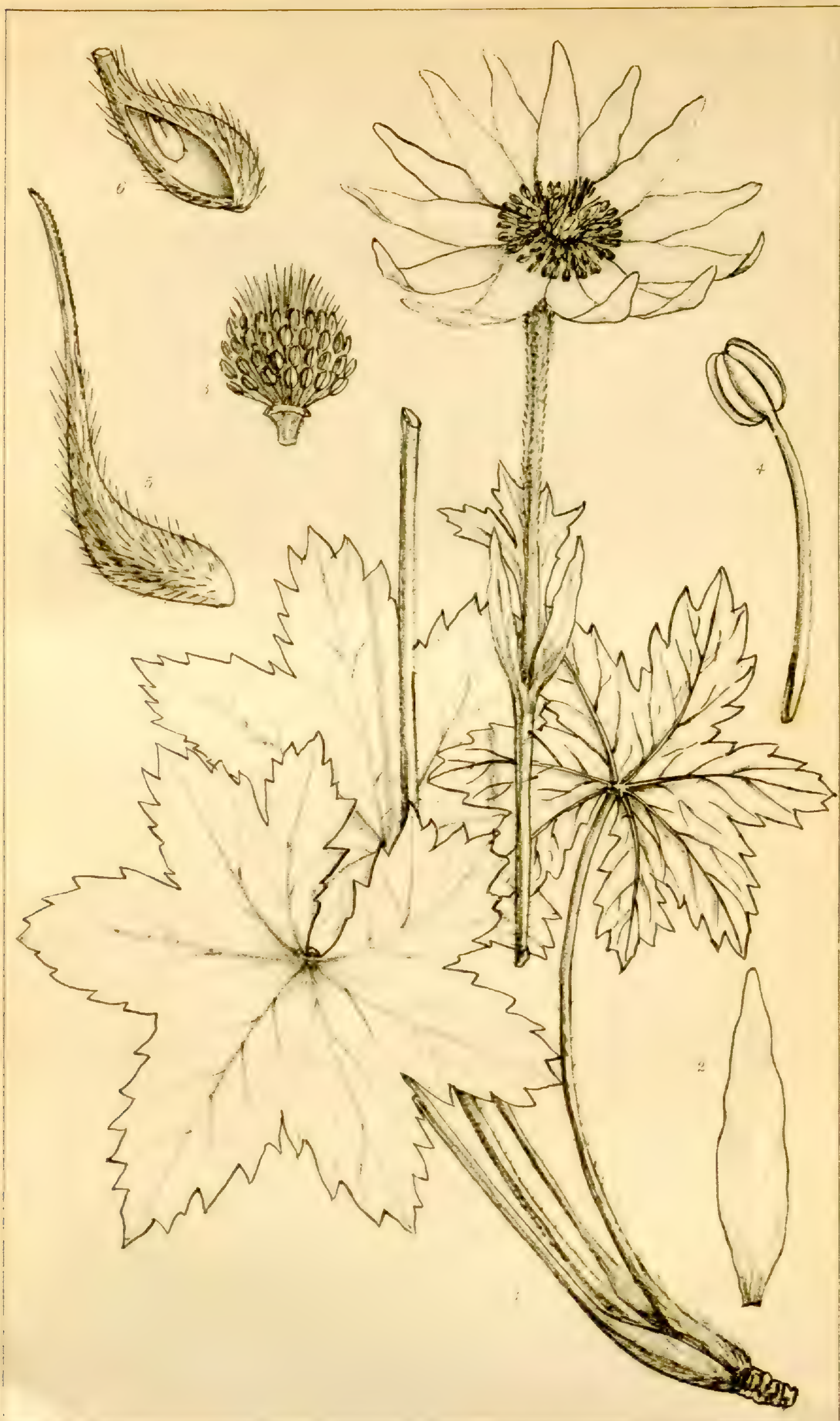
























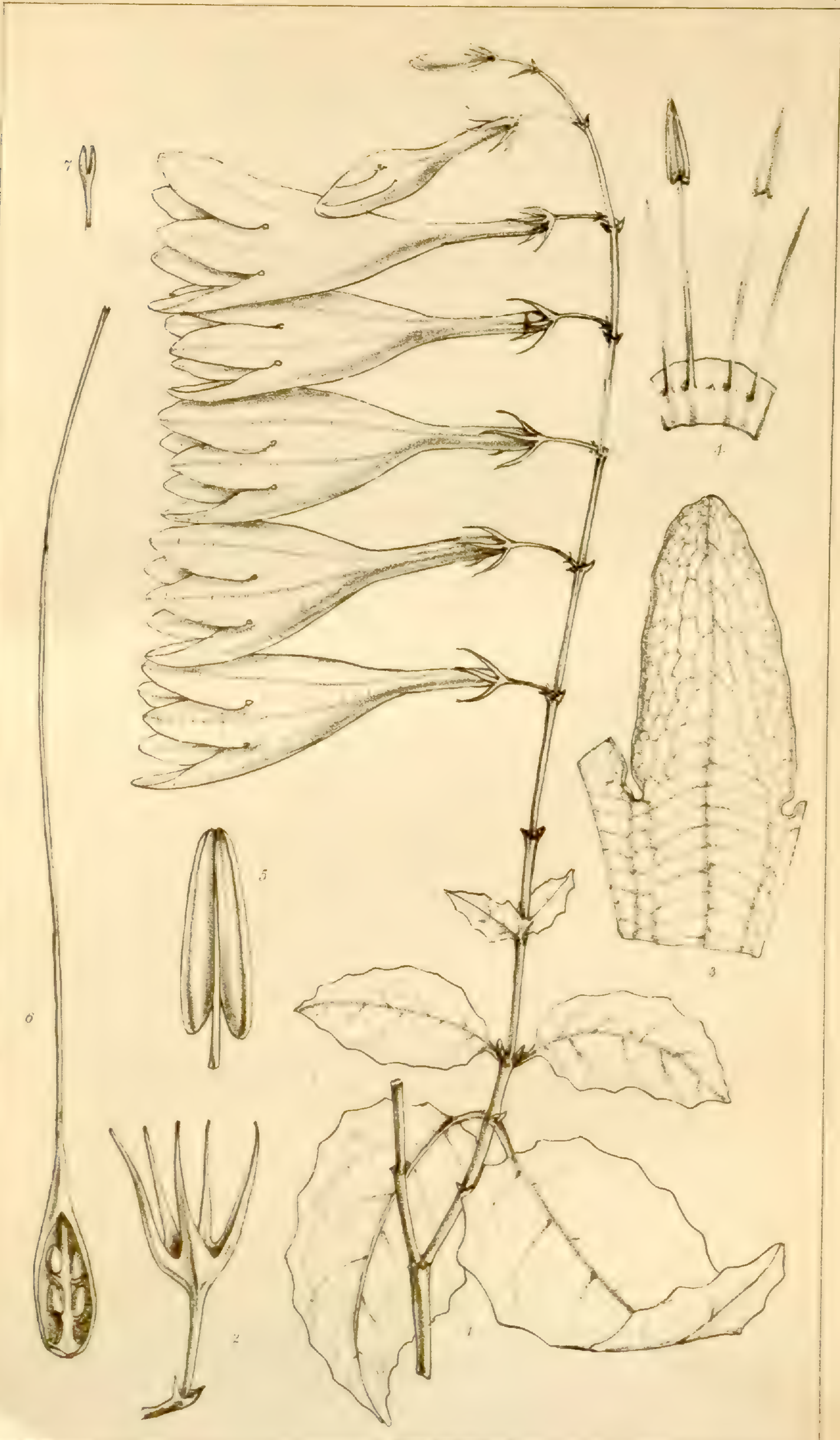
















W.H.H. del. et lith.

*Cercpegia Bowkeri, Harv*





*Othonna scapigera*, Harv.









*Phæroxyten utile*, E & G









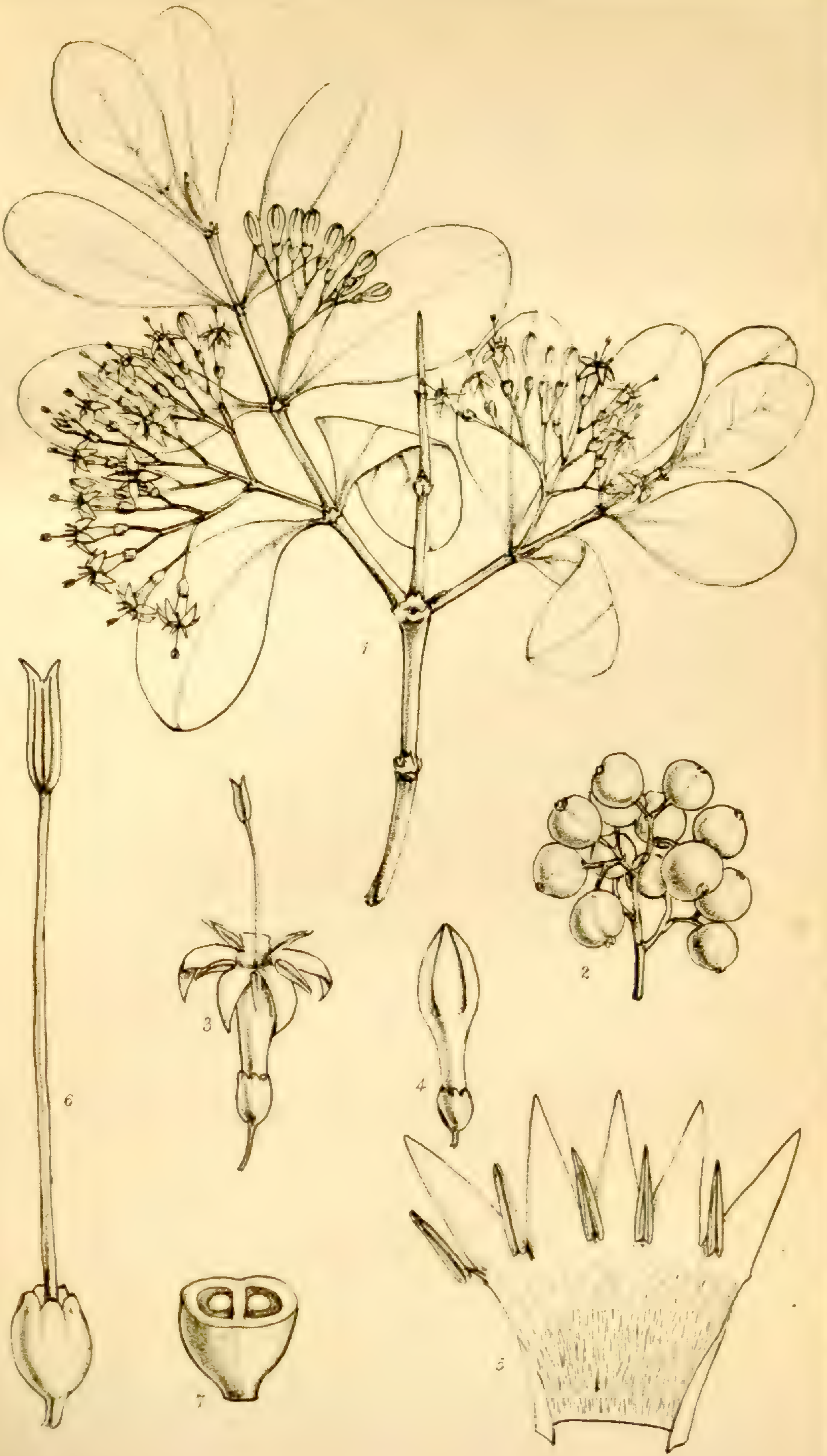
























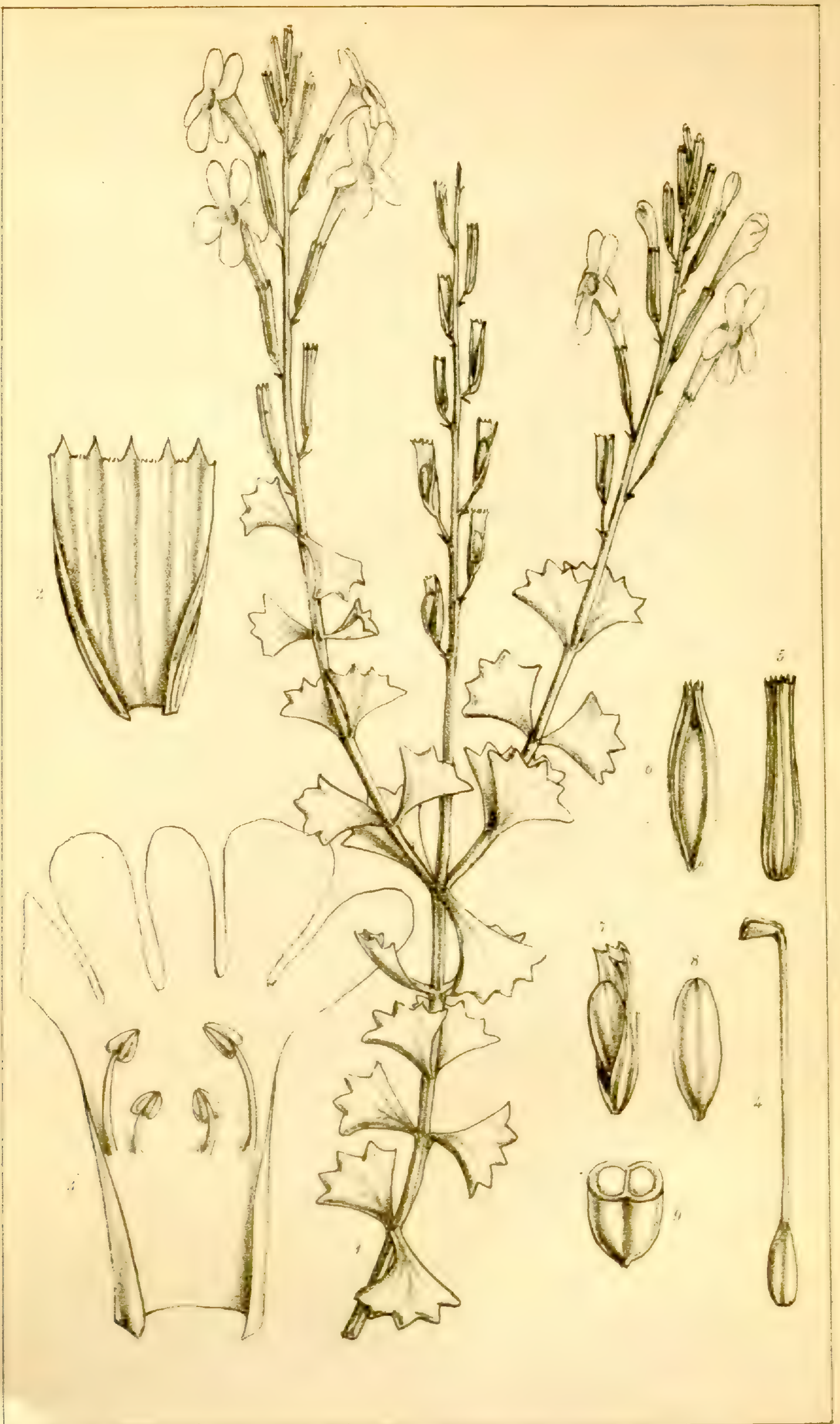










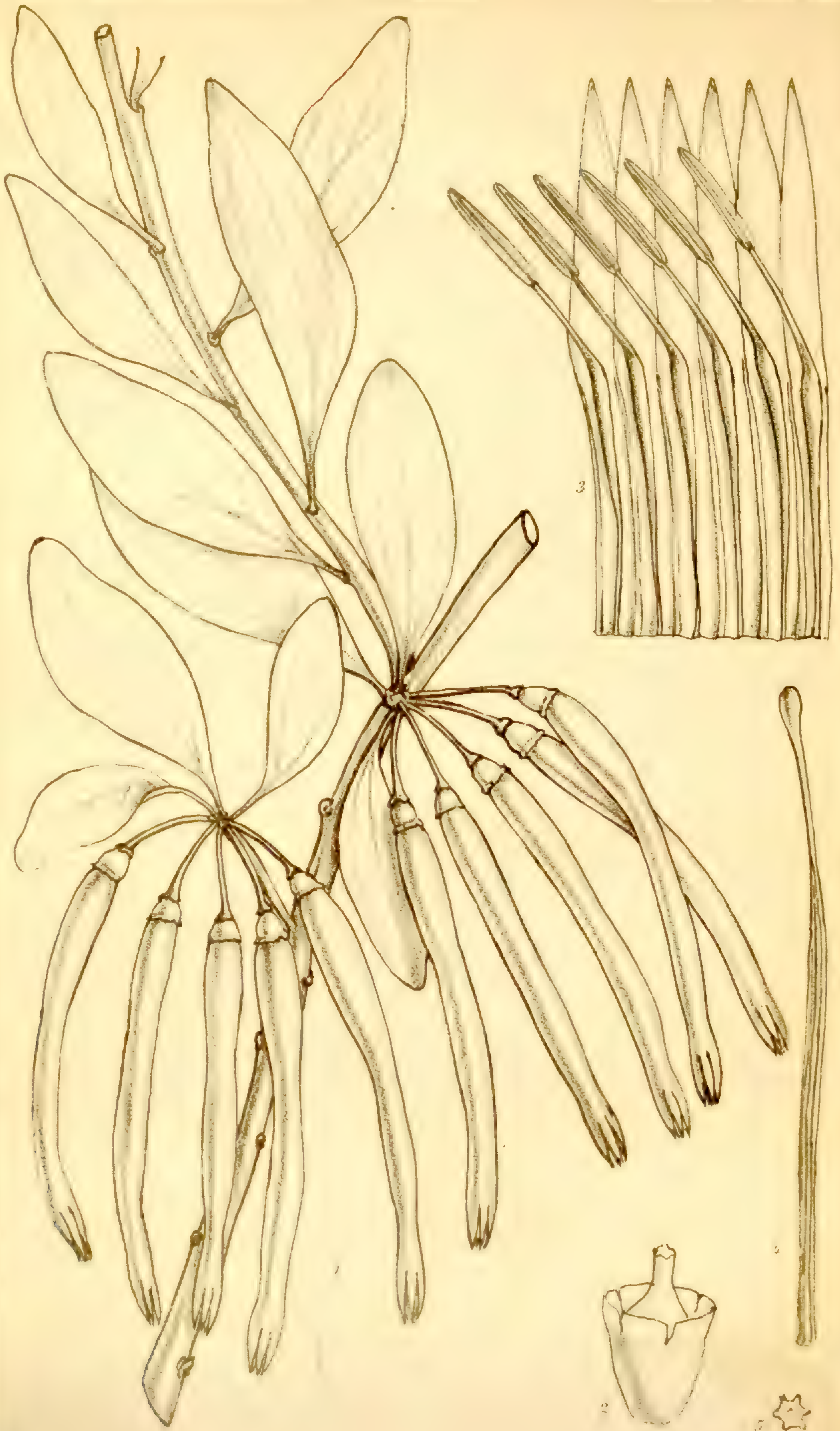


*Euphorbia cuneifolia*, Schauer









*Loranthus Natalitius, Masn*





W E H del. et zith.

W West imp.

*Rawsonia lucida, Harv*





W.H.H. del et lith.

*Schotia brachypetala*, Sond

W. West. imp.





*Randia Kraussii*, Harv.





*Randia rudis*, E. Mey









*Aulaya coccinea*, Harv













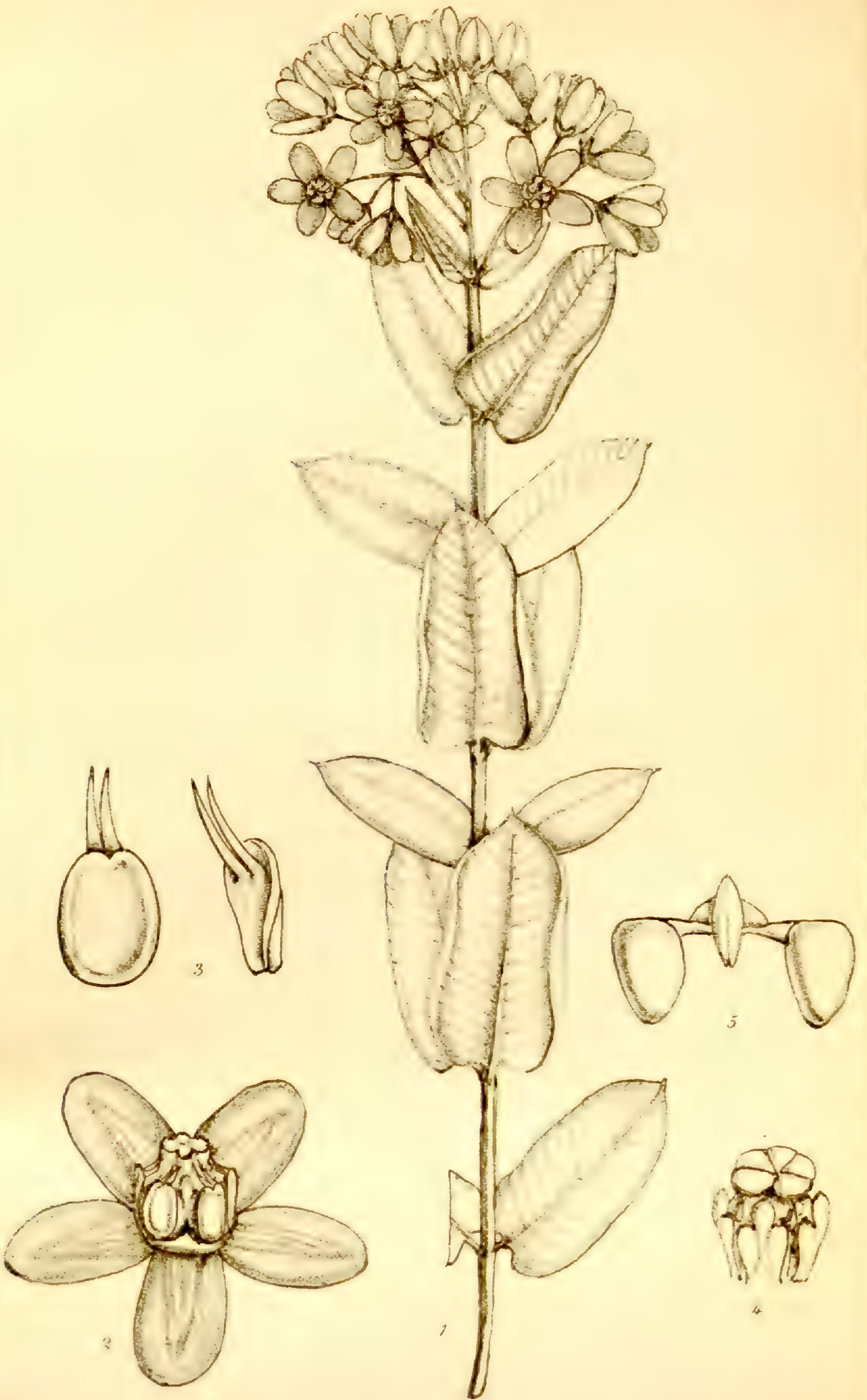
















*Tenaris rubella*, E. Mey









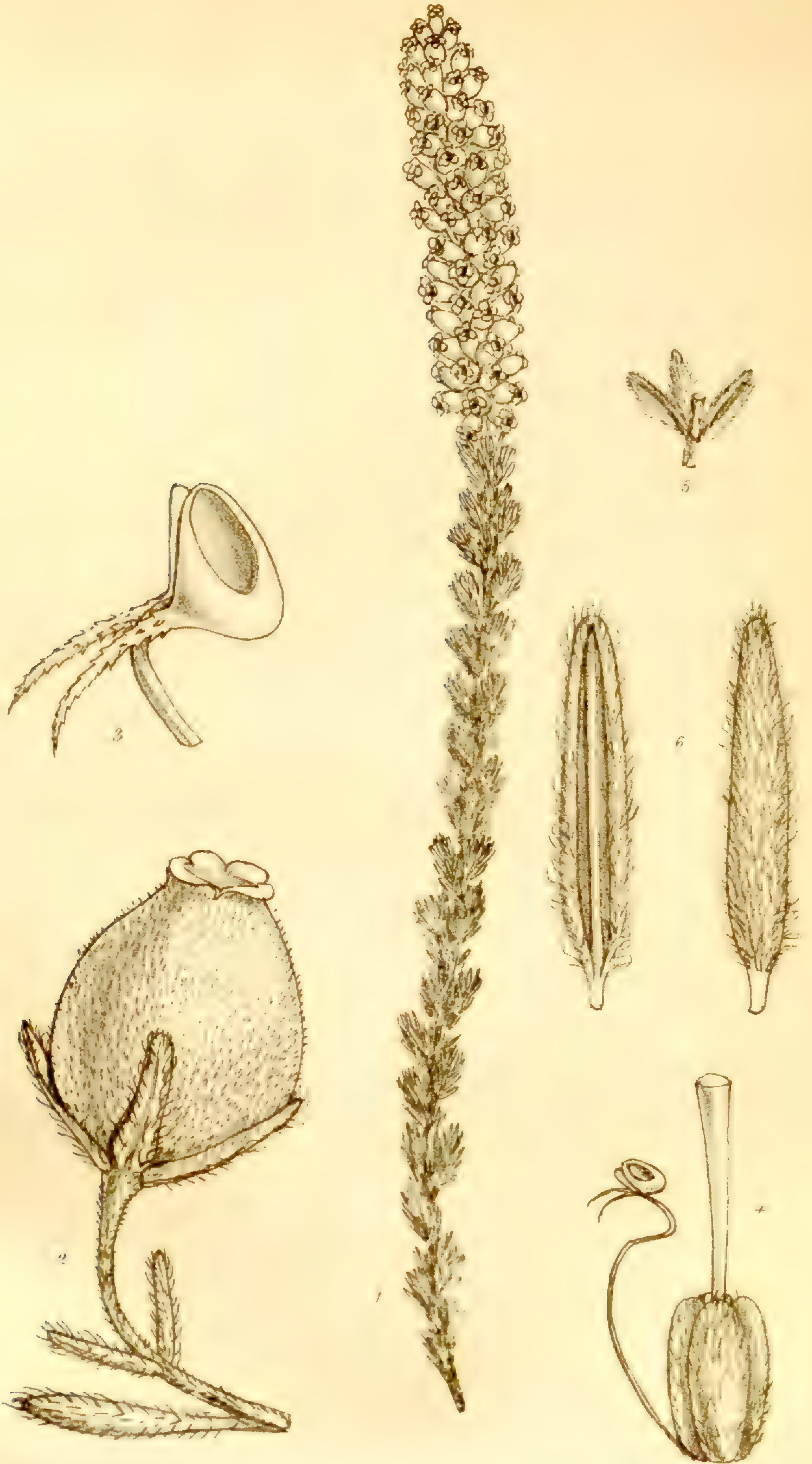








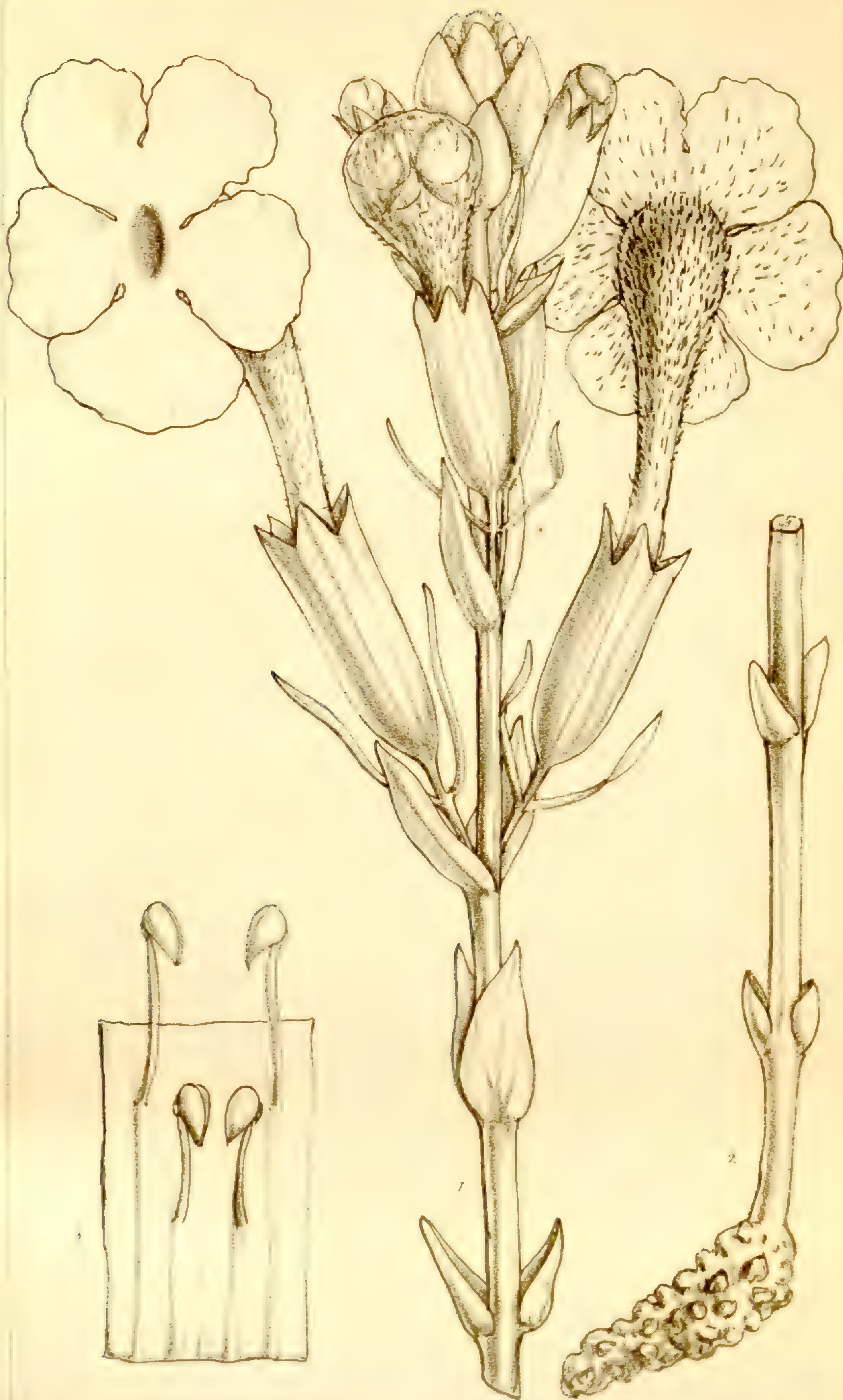




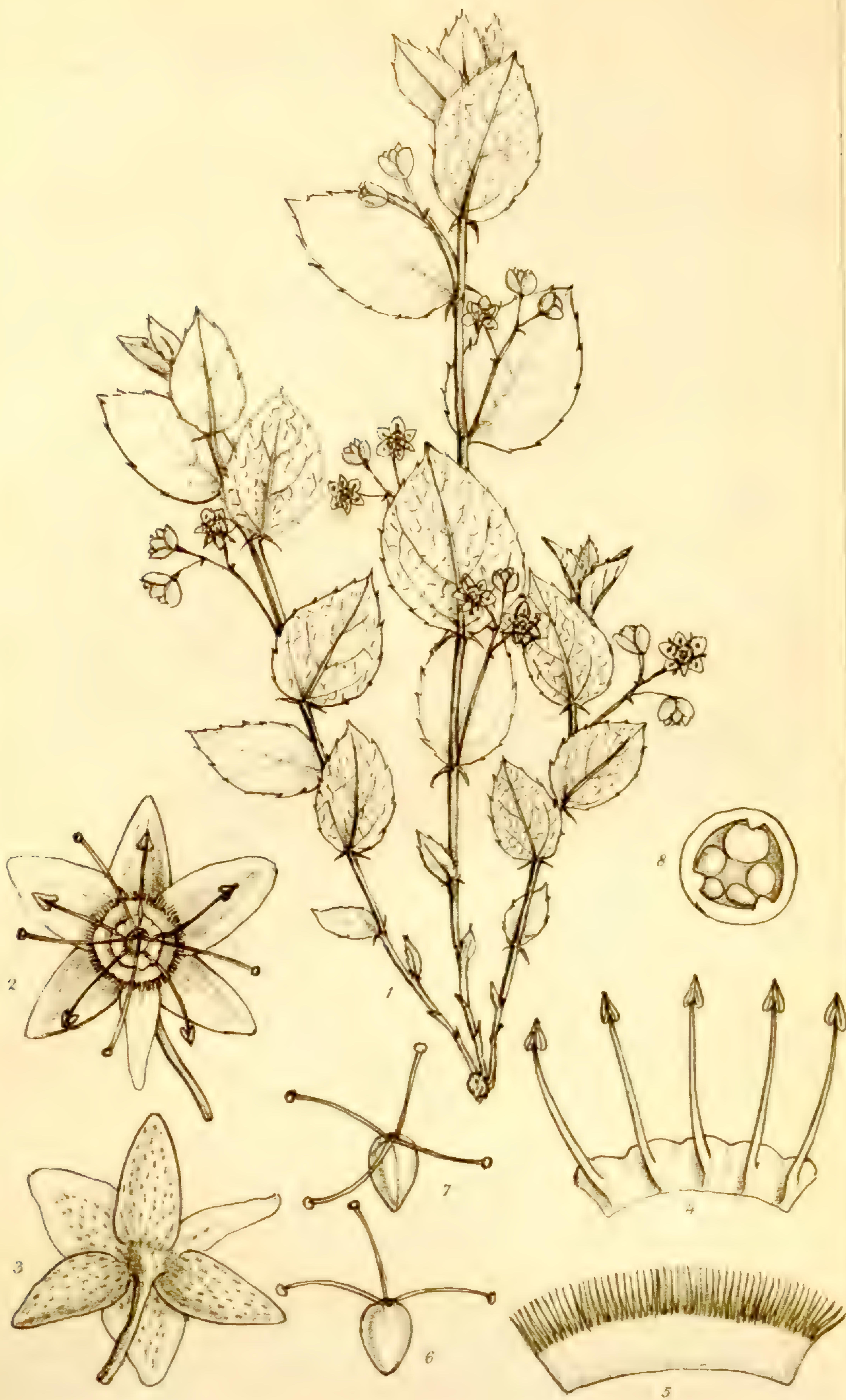




















































*Lycium a. Andersonii* Harv





























W.H.H. del. et lith.

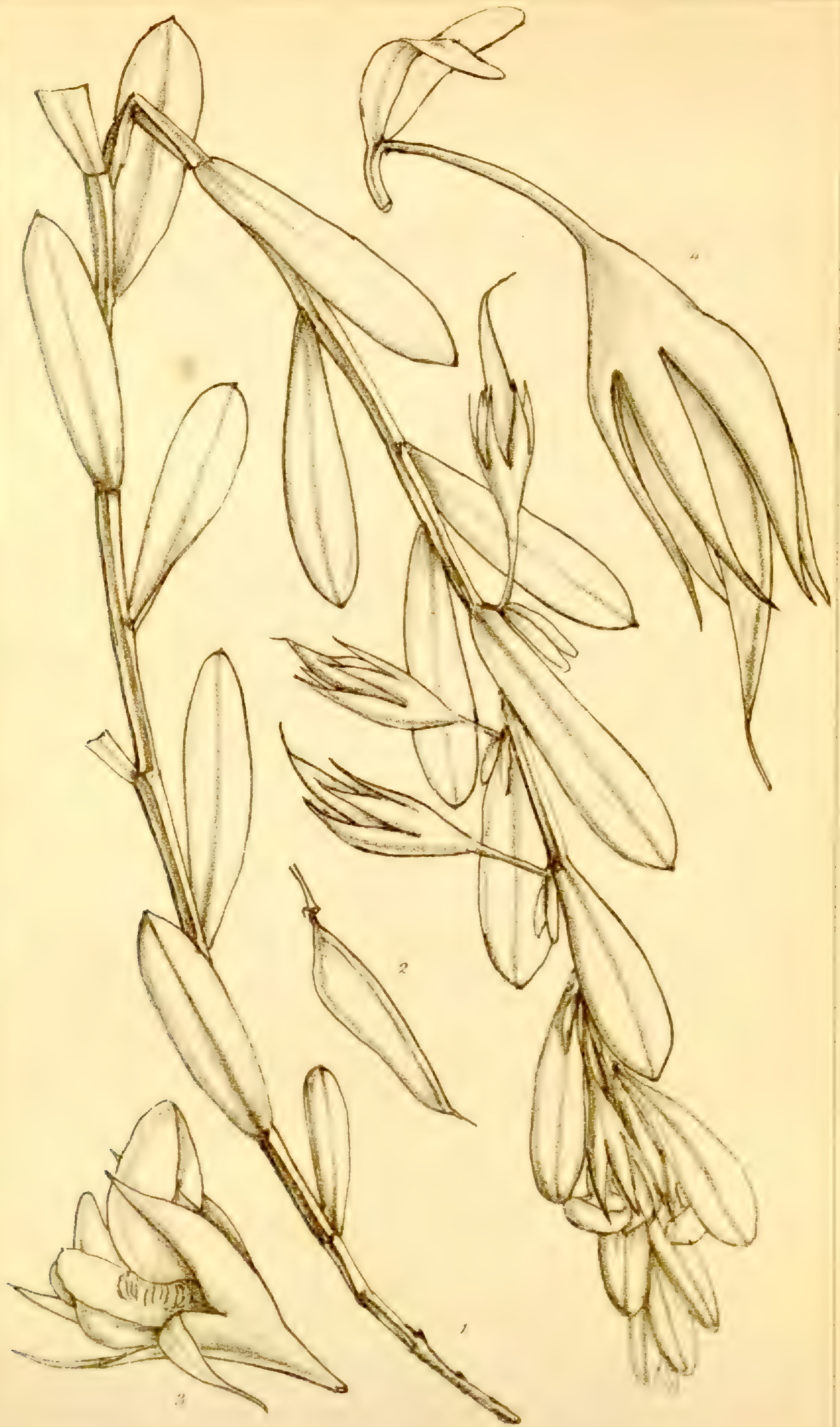
*Corymbium congestum*, E. Mey.

W. West imp.













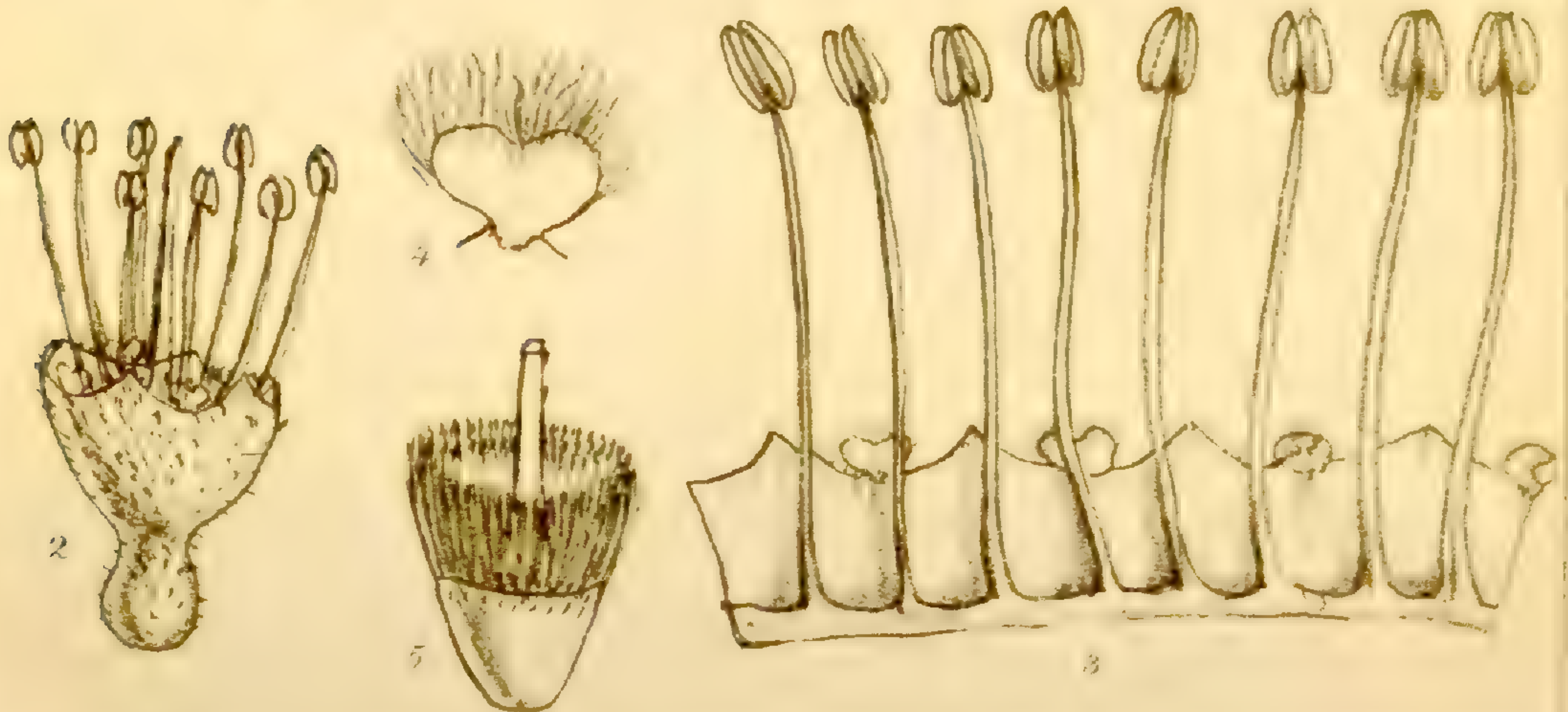
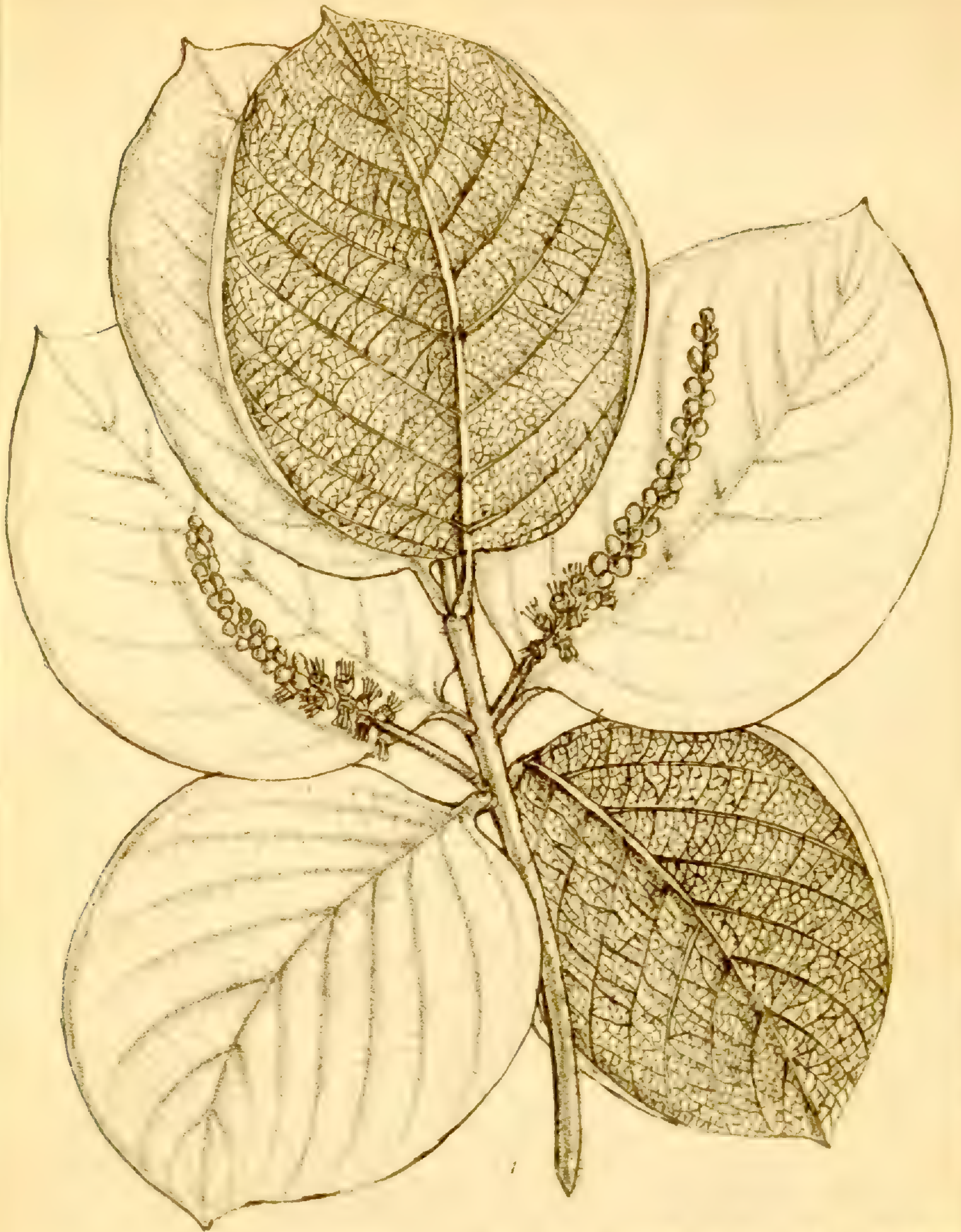
*Rafnia lancea*, D.C.





*Rhoseus pusillus, Thunb*



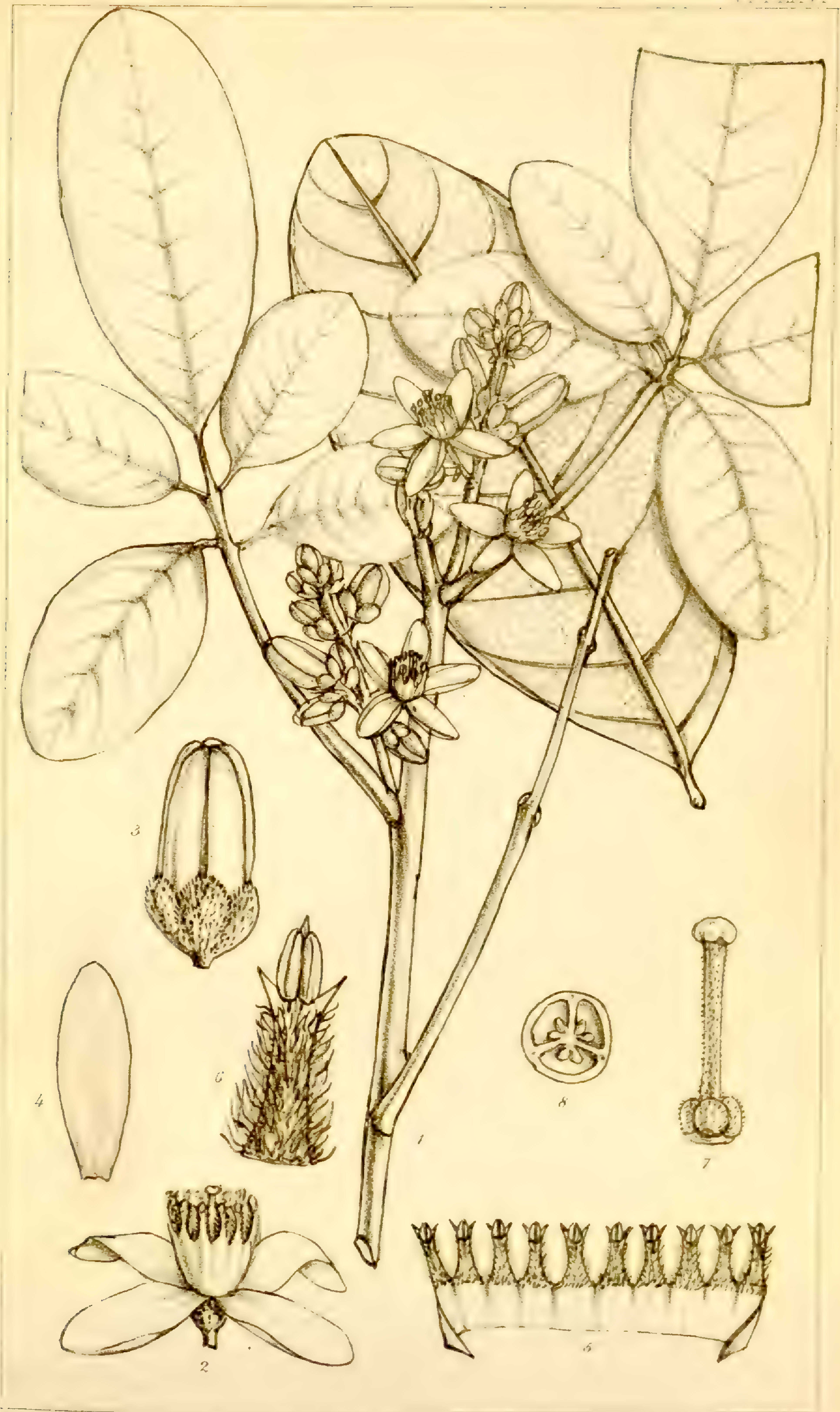


*Combretum holosericeum, Sond.*

















*Ononis spinosa* L.









*Psoralea Zeyheri*, Harv.



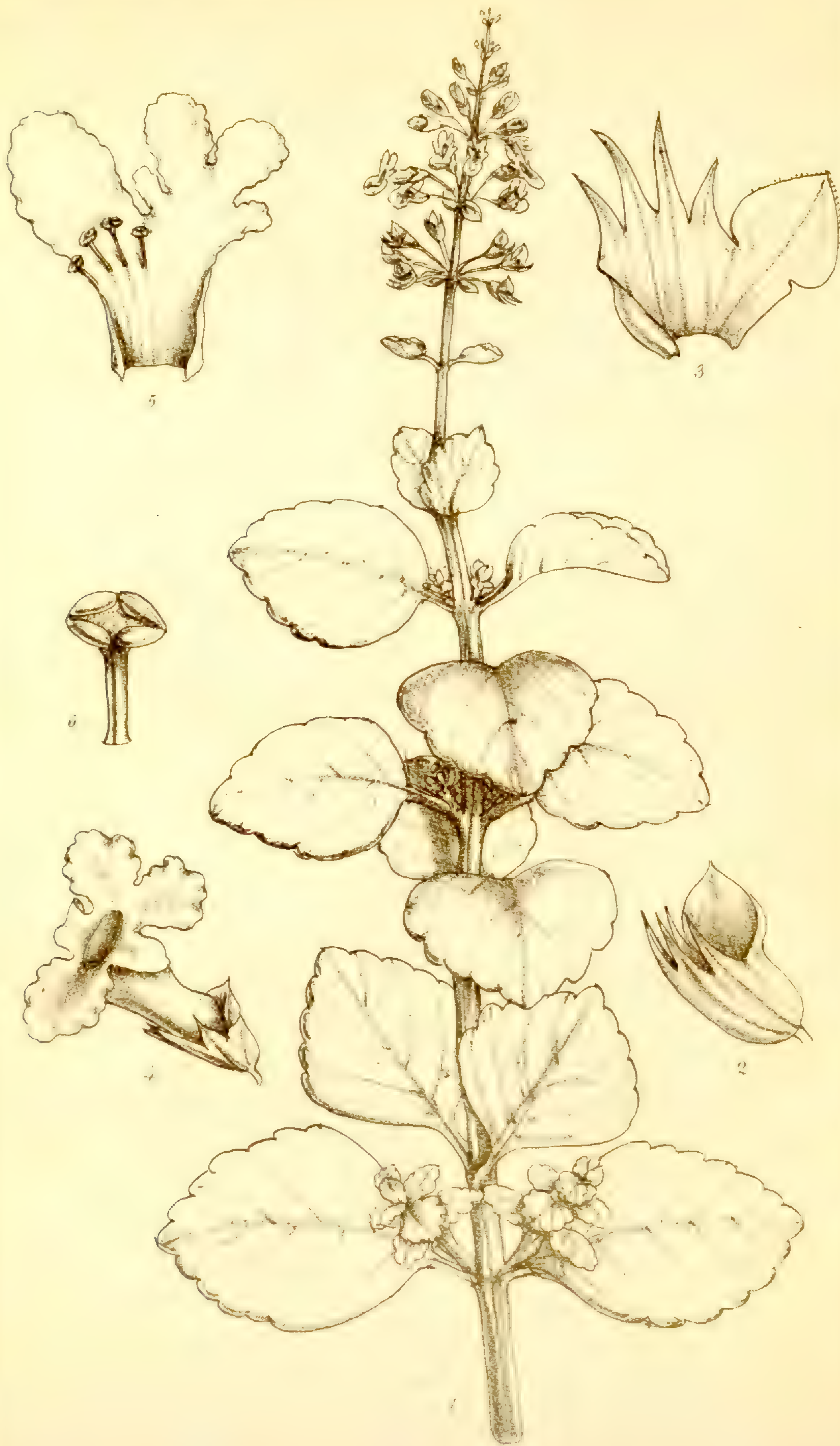




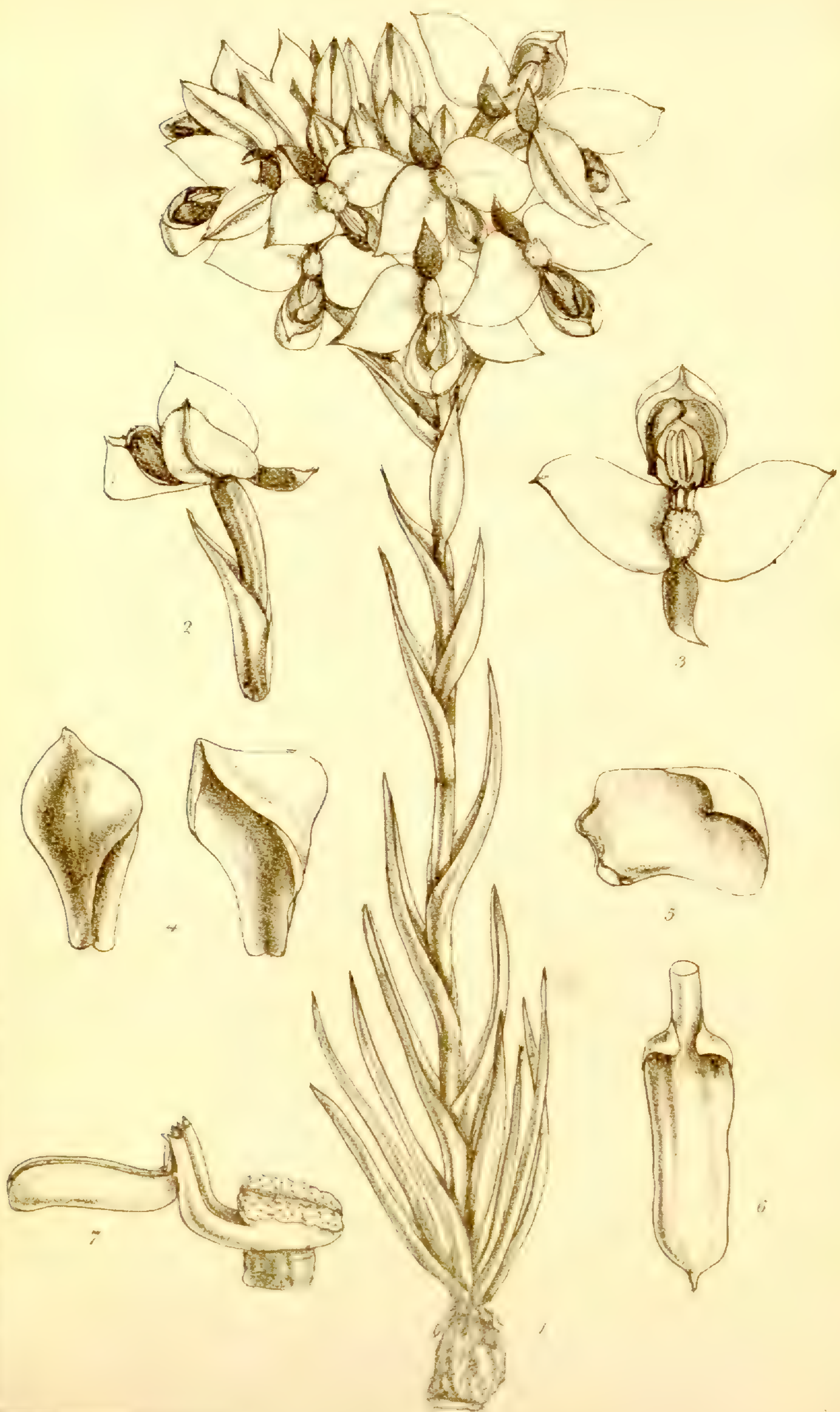


*Astragalus Burkeanus*, Benth

















*Disa spathulata*, Sw

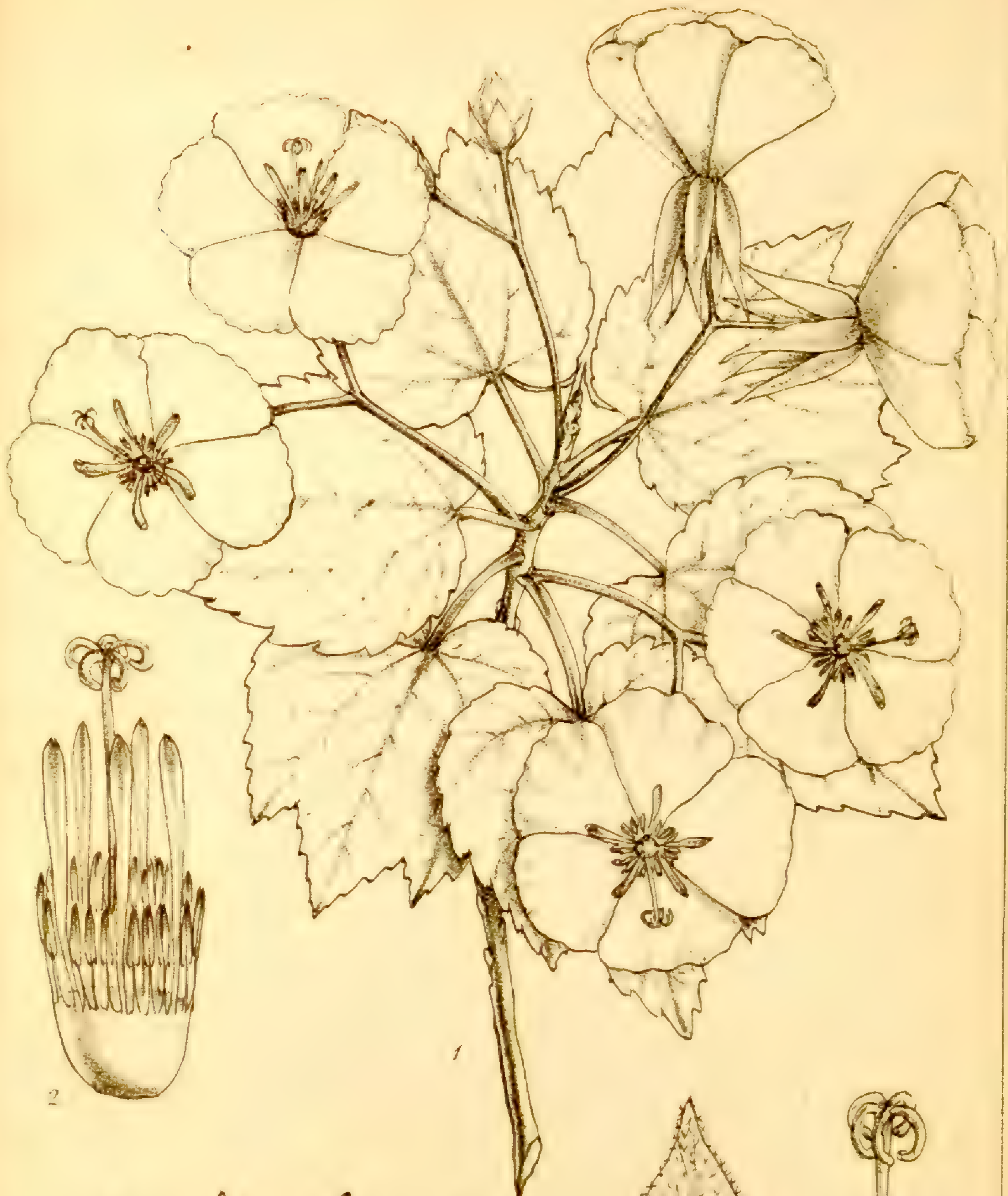




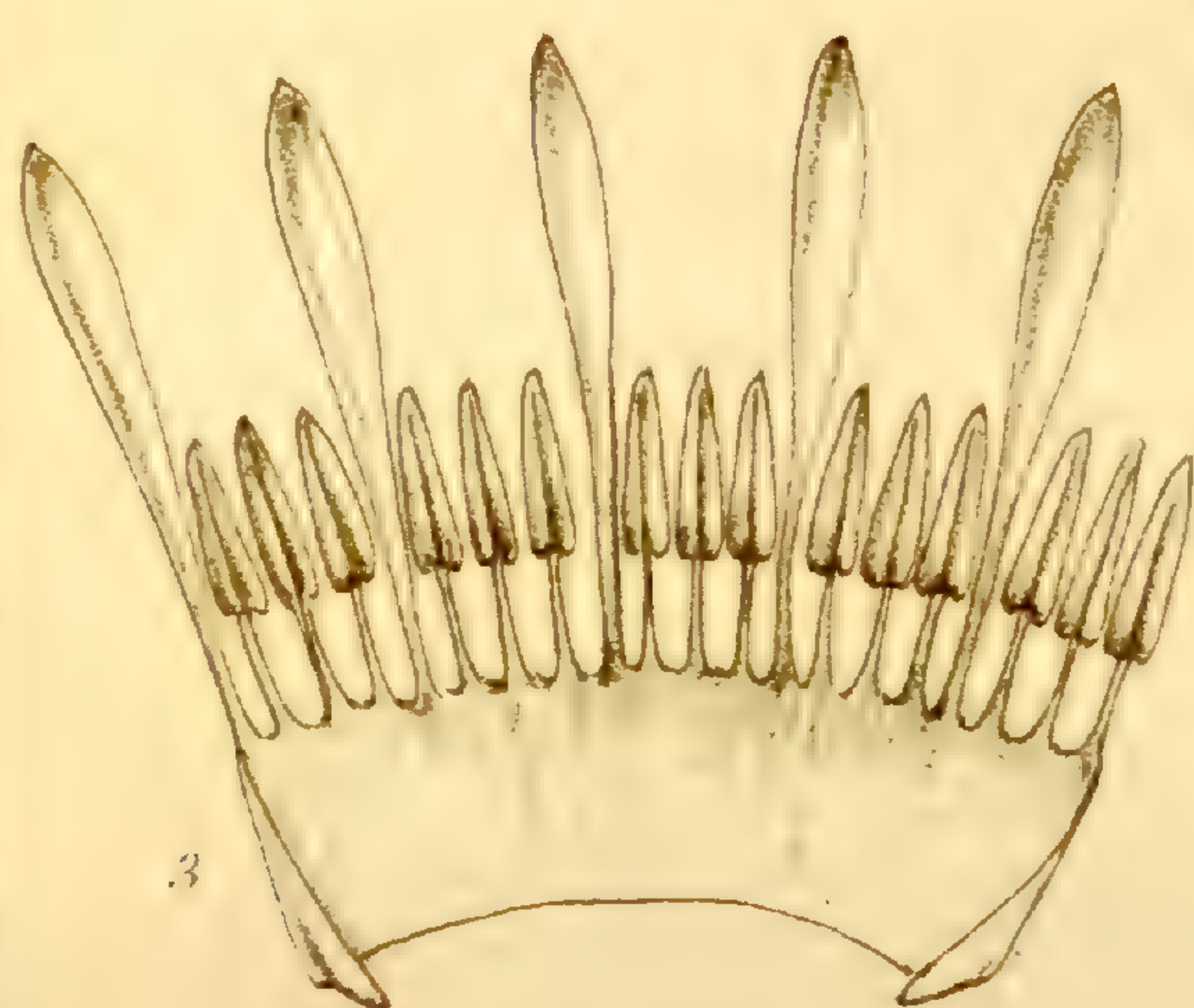




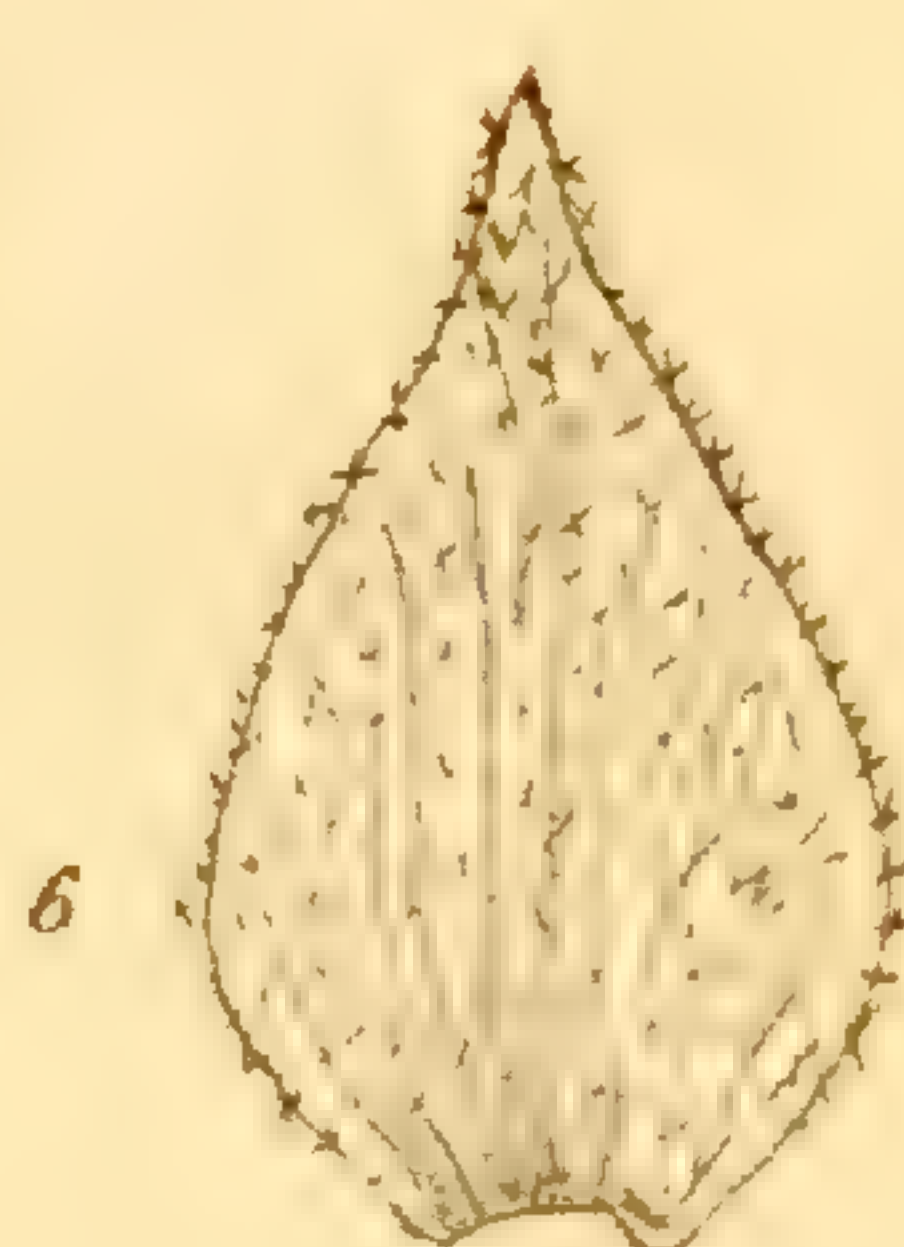




2



3



6



5

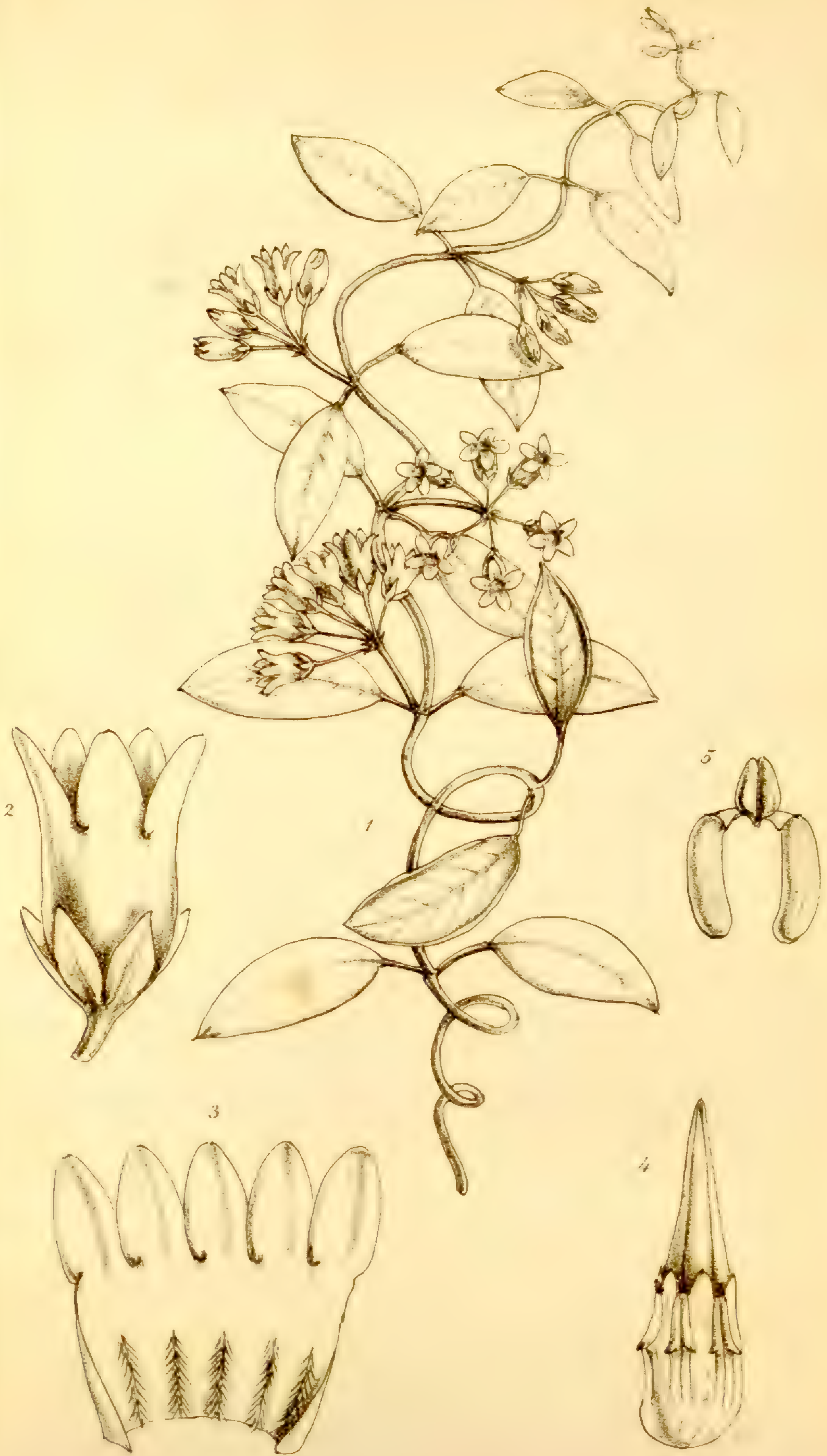


4

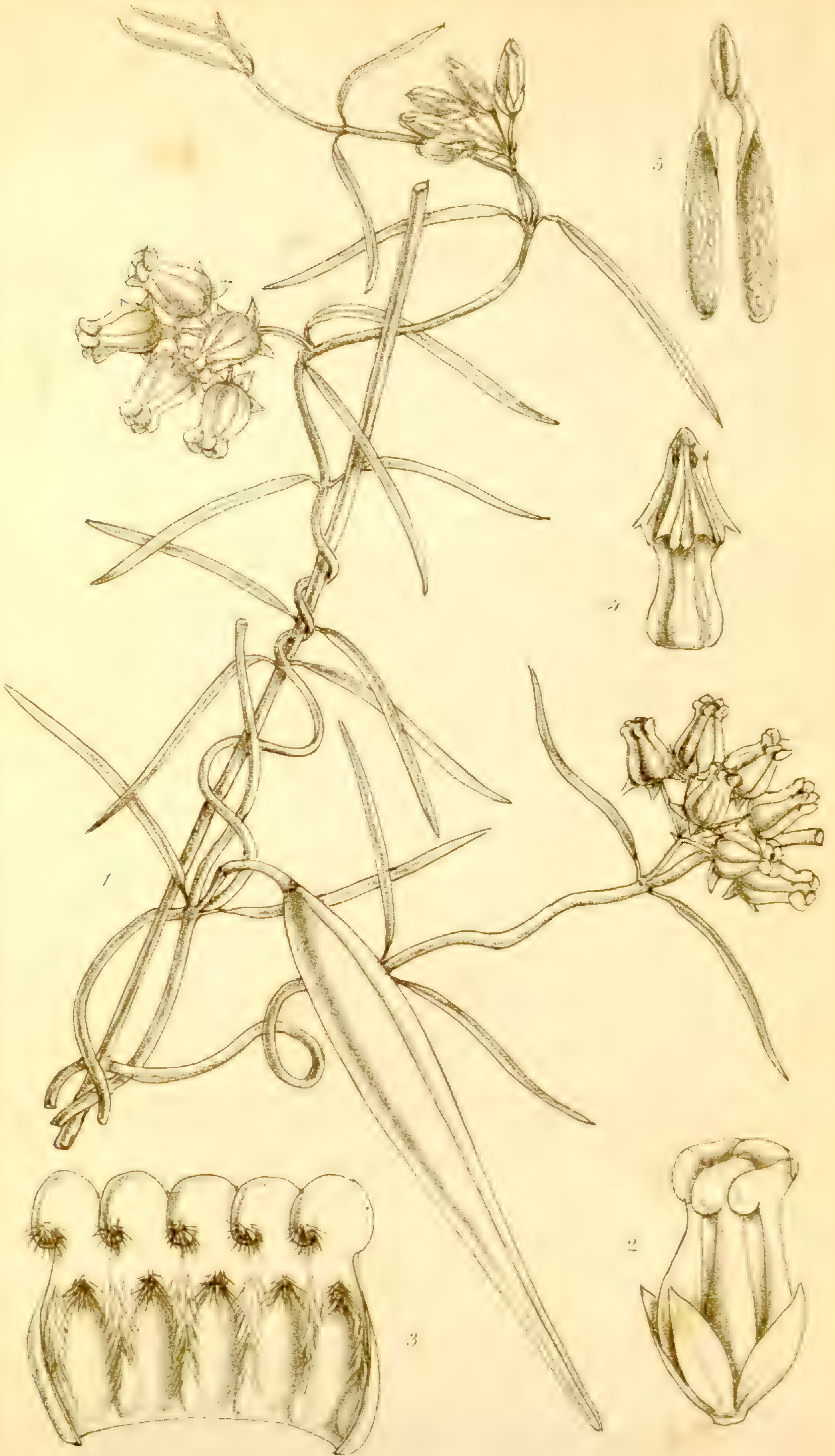




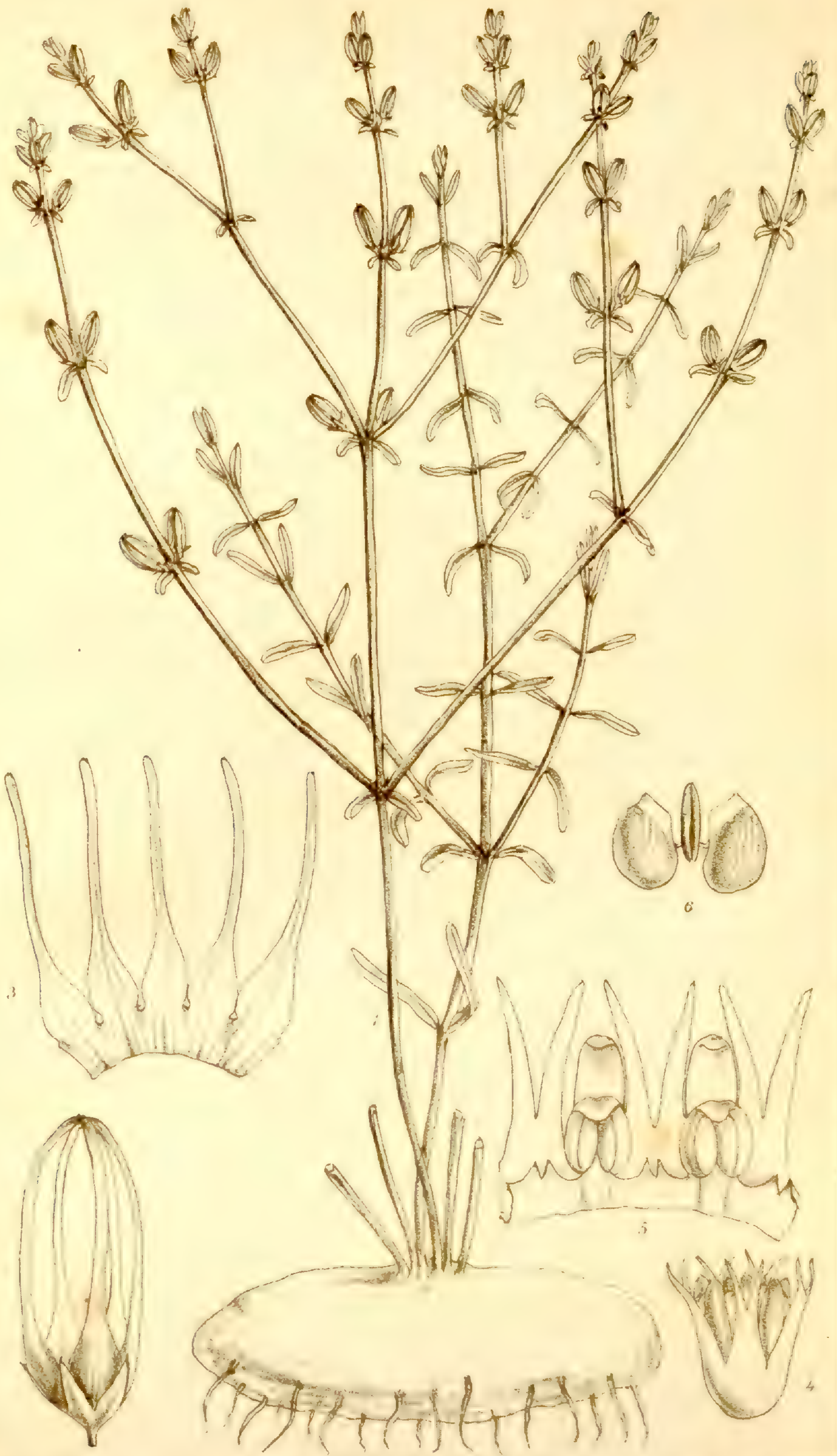








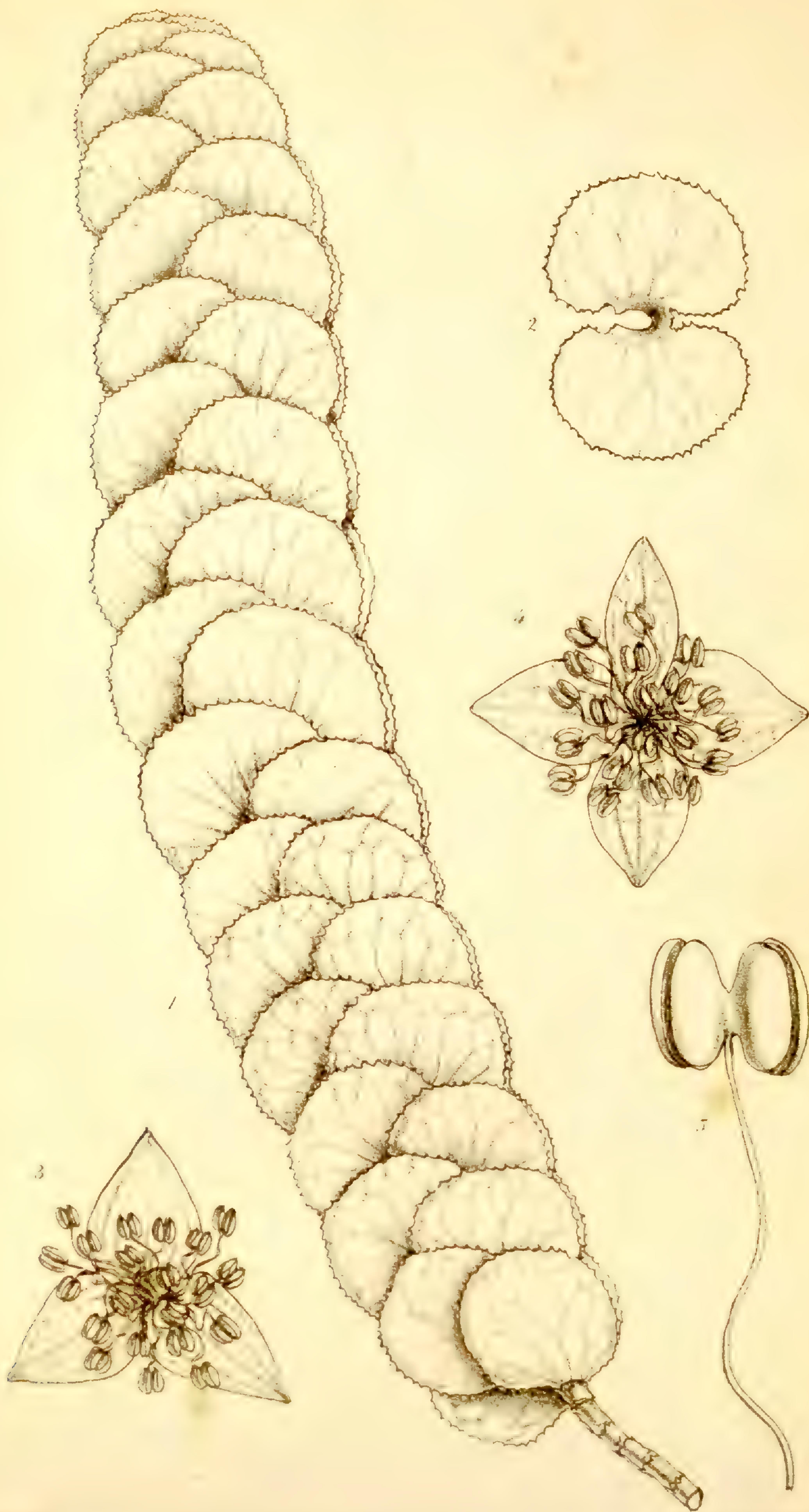












*Cliffortia crenata*, Linn. f.



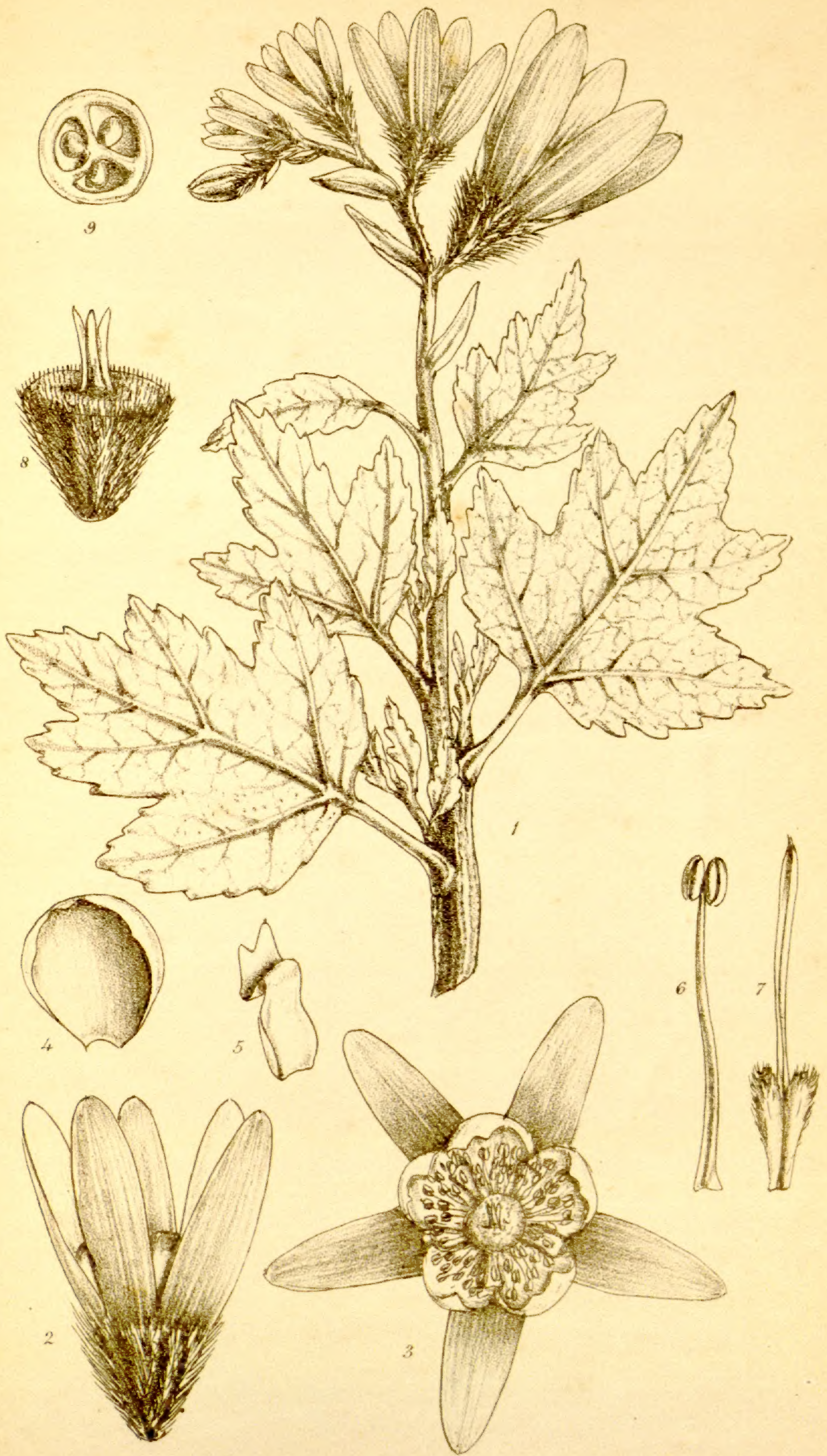


*Pilocyne Garini*,















A.



B.



C.



D.

